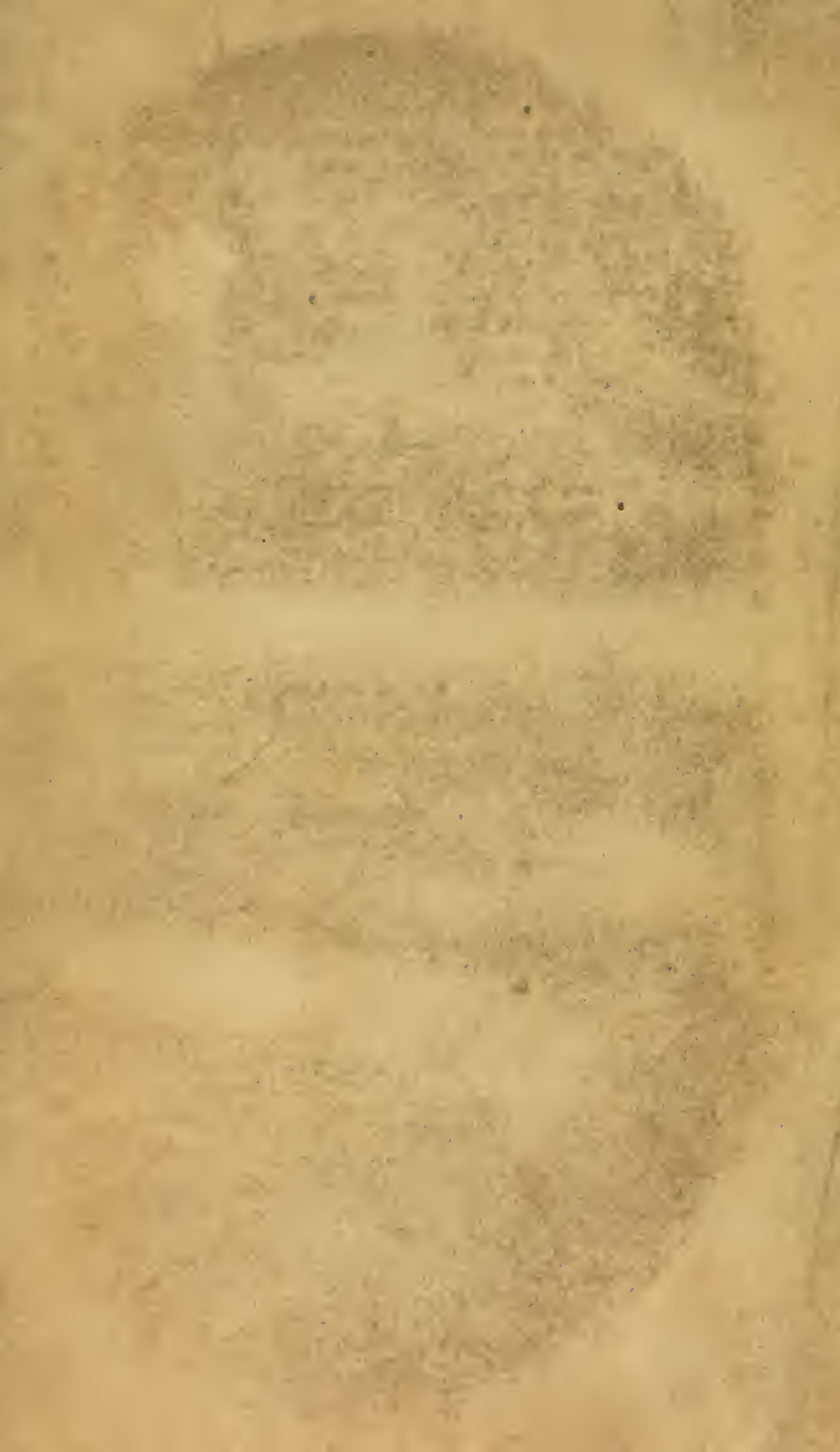


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ANIMAL BIOGRAPHY;

OR,

ANECDOTES

OF THE

LIVES, MANNERS, AND ECONOMY,

OF THE

ANIMAL CREATION,

ARRANGED ACCORDING TO THE SYSTEM OF LINNÆUS.

BY THE REV. W. BINGLEY, A.B.

FELLOW OF THE LINNEAN SOCIETY,

AND LATE OF ST. PETER'S COLLEGE, CAMBRIDGE.

IN THREE VOLUMES.

VOL. I.

QUADRUPEDS.

LONDON:

PRINTED FOR R. PHILLIPS, NO. 71, ST. PAUL'S CHURCH-YARD,
BY J. ADLARD, NO. 39, DUKE-STREET, WEST SMITHFIELD;
AND SOLD BY T. HURST, PATERNOSTER-ROW; E. BALFOUR,
EDINBURGH; AND J. ARCHER, DUBLIN.

1803.



TO
MRS. SHERBROOKE,
AND
MISS ELIZABETH COAPE SHERBROOKE,
UNITED
IN VIRTUES, IN PURSUITS, AND AFFECTIONS,
THESE VOLUMES ARE
INSCRIBED,
A TOKEN OF SINCERE ESTEEM AND RESPECT,
BY THEIR MOST FAITHFUL AND
MUCH OBLIGED SERVANT,
WILLIAM BINGLEY.

PREFACE.

IN giving the following Work to the public, I wish to be understood, as laying no claim whatever to attention, except on the score of utility : but if, by going somewhat out of the track of former writers, and, at the same time, in a strict adherence to system, it shall appear, that I have brought forward anecdotes and observations that tend to promote the study of this delightful science, I shall consider the labour of two years, almost entirely employed in it, as not improperly bestowed. For this purpose, besides my own immediate observations, I have ranged through a most expensive collection of books, amounting in number to near a *thousand volumes* ; and I have taken in the accounts of nearly all the authentic travellers and historians, from the earliest to the present times.

The principal intention of the work, is to induce a taste for the study of Natural History ; and, by confining my remarks almost exclusively to the manners of the animals, to put such of my readers, as think the subject worth attention, into a train for looking more deeply into it than any books can possibly lead them, and to point out to them the mode of making observations for themselves in the

grand volume of Nature, that lays always open to their perusal.

To the female reader I must remark, that every indelicate subject is scrupulously excluded. The dangerous tendency of the writings of the Comte de Buffon, and a few others, is too generally known to render any further apology for this liberty necessary.

The work, as it at present stands, may, I think, without impropriety, be denominated an *Animal Biography*:—To this end, I have omitted nearly every thing that did not bear an illustration to the character of the animals; and the reader will also observe, that, to render the anecdotes of their manners as interesting and as little interrupted as possible, by matter not immediately relative to the subject, I have in general confined even the descriptive parts of dimensions, colour, shape, &c. to the first ten or twelve lines of the account. I have also left entirely unnoticed all such animals as afforded nothing but this kind of description; for a sufficient account of these is to be found in almost every authentic book of Natural History extant; but particularly in Dr. Shaw's elegant and valuable work on General Zoology. I am well aware, that the reader may recognize many of the anecdotes: It is impossible entirely to prevent this; but, in order to avoid it as much as possible, I

have omitted nearly all those that are the most trite and well known.

In composing these volumes, I have all the way attended to every thing that might be of use in juvenile instruction. Youth are caught by anecdote ; and from this peep into nature, many may be induced to look further than they at first intended, and to enter with spirit into the study of such more abstruse books as would, at first sight, have alarmed them.

It is necessary that I should explain one circumstance, that may be remarked by critical readers :—This is, that, in some instances, an author is quoted, and no reference appears to him in the notes. At the commencement of the work, it was my intention to let the general list of authorities suffice for all, except doubtful cases ; but, after I had proceeded some way, I was induced to change my plan in this respect, and, as far as I then could, to insert no statement, but on an immediate reference to the writer. Where, therefore, this is not found, the reader must conclude, that I had passed the part when the after resolution was formed.

All the writers from whom I have derived information, are, I believe, esteemed authentic : but, even amongst the most careful of these, I have at times found some difficulty in separating truth from falsehood. Many are

too apt to depend on report for subjects, that require somewhat more than report for their authentication. We should not, however, be justified in entirely throwing aside the writings, even of those in which some glaring absurdities are discoverable: but it is necessary, that we should be careful in selecting the sterling grains of truth from the imperfect and drossy matter that frequently surrounds them.—To render myself less liable to censure, I have been extremely careful, wherever any statement appeared doubtful, never to omit citing my authority.

The system to which I have adhered in my arrangement, is that of Linnæus, as corrected by Gmelin, Shaw, and a few other later writers. This, although perhaps not altogether so natural as some others, is, I conceive, the best calculated of any extant to simplify and assist the study.

The figures I have referred to are such authentic ones, as the reader may have admission to at the least expence.—These are marked in *Italics*, in the notes, at the commencement of each species, immediately after the list of synonyms.

LIST

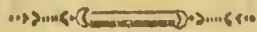
OF THE

PRINCIPAL WORKS

THAT FORM THE FOUNDATION OF THE FOLLOWING VOLUMES:

• INTENDED AS AN

EXPLANATION OF THE REFERENCES.*



- | | |
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ON THE

STUDY OF NATURE.

“ONCE upon a time the Seven Wise Men of Greece were met together at Athens, and it was proposed that each of them should mention what he thought the greatest wonder in the Creation. One of them, of higher attainments than the rest, explained the opinions of some of the astronomers respecting the fixed stars, as being so many suns, that had each their planets rolling round them, which were stocked with plants and animals like this earth. Fired with the idea, they agreed to supplicate Jupiter that he would at least permit them to take a journey to the Moon, and remain there three days, in order to see the wonders of that place, and give an account of them to the world at their return.—Jupiter consented, and ordered them to assemble on a high mountain, where a cloud should be in readiness to convey them thither. They chose some men of talents as their companions, to assist them in describing and painting the objects they should meet with.

At length they arrived at the Moon, and found a palace there well fitted up for their reception. The day following, being much fatigued with their journey, they remained in the house till noon; and continuing still faint, partook of a most delicious entertainment by way of refreshment, which they relished so much that it overcame their curiosity. This day they only saw, through the windows, that delightful country, adorned with the most beautiful flowers, to which the beams of the Sun gave an uncommon lustre; and heard the singing of the most melodious birds, till evening came on.—The second day they rose very early in order to begin their observations, but some elegant young females of the country calling upon them, advised that they should first recruit their strength, before they exposed themselves to the laborious task they were about to undertake. The delicate meats, the rich wines, and the beauty of these females, prevailed over the resolution of the strangers. Music is introduced, the young ones begin to dance, and all is turned to jollity; so that the whole of this day seemed dedicated to gallantry, till some of the neighbours, envious of their mirth, rushed into the room with swords. With some difficulty they were taken, and it was promised, as a recompence to the younger part of the company, that on the following morning they should be brought to justice.—On the third day their trial was heard, and what with accusations, pleadings, exceptions, and the judgment itself, the whole day was occupied, and the term allowed by Jupiter expired.

On their return to Greece, the whole country flocked around to hear the wonders of the Moon described: but all they could say, for it was all they knew, was, that the ground was covered with green, intermixed with flowers; and that the birds sung delightfully among the trees: but what was the nature of the flowers they saw, or of the birds they had heard, they were entirely ignorant.—On which they were every where treated with the utmost contempt.’’*

This fable was applied with extreme propriety by our great master, Linnæus, to mankind in general. In youth we are, in every respect, too feeble to examine the great objects around us: all that season, therefore, is lost amidst indolence, luxury, and amusement. Little better are we in manhood: settling ourselves in life; marrying; bustling through the world; overwhelmed, at length, with business, cares, and perplexities, we suffer those years also to glide away. Old age succeeds: yet still some employments intervene, till at last we are passed through the world, without scarcely a single recurrence to the admirable works of our Creator; and, in many instances, even without having at all considered the end for which we were brought into it.—This is, with a few exceptions, the progress of man through life: It is true that every person takes some notice of nature: All can

* In the Lectures of Linnæus on the subject of Natural History, he frequently made use of some apt similitude by way of exciting the attention of his audience. The present fable was one that he adopted in his Lecture on Insects.

remark the beautiful verdure of the fields and woods; the elegance of the flowers; the melodious and delightful singing of the birds: yet few indeed ever give themselves the trouble of enquiring one step further, or exhibit any desires of examining into the nature of these wonderful combinations of Divine Power.

It is one material use of the study of Nature, to illustrate this greatest of all truths:—"That there must be a God; that he must be almighty, omniscient, and infinite in goodness; and that, although he dwells in a light, inaccessible to any mortal eye, yet our faculties see and distinguish him clearly in his works*."

In these we are compelled to observe a degree of greatness far beyond our capacities to understand:—we see an exact adaption of parts composing one stupendous whole; an uniform perfection and goodness that are not only entitled to our admiration, but that command from us the tribute of reverence, gratitude, and love, to the Parent of the Universe. Every step we tread in our observations on Nature, affords us indubitable proofs of his superintendence: from these we learn the vanity of all our boasted wisdom, and are taught that useful lesson, humility: we are compelled to acknowledge our dependance on the protecting arm of God, and that, deprived of this support, we must, that moment, dissolve into nothing.

Every object in the Creation is stamped with the characters of the infinite perfection and overflowing

* Pontoppidan, Pref. p. 1.

benevolence of its author. If we examine with the most accurate discrimination the construction of bodies, and remark even their most minute parts, we see clearly a necessary dependance that each has upon the other: and if we attend to the vast concurrence of causes that join in producing the several operations of Nature, we shall be induced to believe further, that the whole world is one connected train of causes and effects, in which all the parts, either nearly or remotely, have a necessary dependance on each other. We shall find nothing insulated, nothing dependant only on itself. Each part lends a certain support to the others, and takes in return its share of aid from them.

Previously to entering farther into the subject, we will examine for a moment that part of every animal body called the Eye, which, though one of the most conspicuous, is not still the most surprising part of the body. Here we have exhibited to us nicety of formation, connexions and uses, that astonish us. We see it placed in a bony orbit, lined with fat, as an easy socket in which it rests, and in which all its motions readily take place. We find it furnished, among many others, with those wonderful contrivances the iris, pupil, and different humours; and that incomprehensible mechanism the optic nerve, which affords to the brain, in a manner greatly beyond our conceptions, the images of external objects.—How admirable is the construction of the Skeleton: every particular bone adapted peculiarly to the mode of life and

habits of the animal possessing it. The muscular system is still more entitled to our wonder; and if we enter into examination of the viscera, the skin, and the other parts of the body, we can fix no bounds to our astonishment.

But all the common operations of Nature, great as they are, become in general so familiar to us, that in a great measure they cease to attract our notice. Thus also all the usual powers of animal life, which, were they but adverted to, could not fail to affect the mind with the most awful impressions, are suffered to operate unheeded, as if unseen.—We all know, for example, that, whenever inclination prompts to it, we can, by a very slight exertion of our vital faculties, raise our hand to our head. Nothing seems more simple, or more easy than this action; yet when we attempt to form an idea of the way in which that incorporeal existence that we call *mind*, can operate upon matter, and thus put it in motion, we are perfectly lost in the incomprehensible immensity that surrounds us. When we try to investigate the properties of matter, we perceive that by patience and attention we can make a progress in attainments to which, according to our limited ideas, bounds can scarcely be assigned. The motions of the planets can be ascertained, their distances measured, and their periods assigned. The Mathematician can demonstrate with the most decisive certainty, that no Fly can alight upon this globe which we inhabit, without communicating motion to it; and he can ascertain, if he chuses to do it, with the most accu-

rate precision, what must be the exact amount of the motion thus produced. In this train of investigation the mind of a Newton can display its superior powers, and soar to a height that exalts it far above the reach of others; and yet, in trying to explain the cause of animal motion, the meanest reptile that crawls upon the ground is, humiliating as the thought may be, on a footing of perfect equality with a Newton: they can alike exert the powers conferred on them by the Almighty Creator, without being able to form the smallest idea of the way in which they are enabled to produce these effects. Man, however, can contemplate these effects if he will: and Man, perhaps alone, of all the animals that exist on this globe, is permitted, by contemplating the wonders that these unfold, to form, if he pleases, some idea of his own nothingness, with a view to moderate his pride, and thus to exalt himself above the unconscious agents that surround him.

When the Anatomist considers how many muscles must be put in motion before any animal exertion can be effected: when he views them one by one, and tries to ascertain the precise degree to which each individual muscle must be constricted or relaxed, before the particular motion indicated can be effected, he finds himself lost in the labyrinth of calculations in which this involves him. When he farther reflects that it is not his own body only that is endowed with the faculty of calling forth these incomprehensible energies, but that the most insignificant insect is vested with powers of a

similar nature, he is still more confounded. A skilful naturalist has been able to perceive that in the body of the lowest Caterpillar, which, in the common opinion, is one of the most degraded existences on this globe, there are upwards of *two thousand* muscles, all of which can be brought into action with as much facility, at the will of that insect, and perform their several offices with as much accuracy, promptitude, and precision, as the most perfect animal; and all this is done by that insect, with equal consciousness of the manner how, as the similar voluntary actions of Man himself are affected!* It would be no easy matter to make some men believe that the minute Ephemera Fly, whose life is but for the continuance of a few hours, is, in all its parts, for the functions it has to perform, as complete as the stately Elephant that treads the forests of India for a century. Little do they suppose that even in its appearance, under the greatest magnifying powers, it is as elegant in every respect, and as beautifully finished, as any of the larger animals! Unlike the paltry productions of Man, all the minute parts of these works of God appear in greater perfection and afford to us a greater degree of admiration, the more minutely and more accurately they are examined. M. de Lisle saw, with a microscope, a very small insect, that, in one second of time advanced three inches, taking *five hundred and forty* steps; and many of the discoveries of Leuwenhoek were even still more wonderful than this. Thus we evidently discern

* Anderson's Recreations in Agriculture.

that all the operations of God are full of beauty and perfection, and that he is as much to be adored in the insect Creation as in that of the Elephant or Lion.

If, from the contemplation of microscopic objects we turn our attention to the stupendous system of the Universe, and view the Heavens, what an astonishing field of admiration is again afforded us. This huge world that we tread is but a speck in the solar system; and that system, immense as it is, is lost in the immensity of the space around, our Sun becoming a Star to Planets revolving round other Suns, as their Suns become Stars to us. Of these no fewer than *seventy-five millions* may be discovered in the expanse exposed to our investigation: but what are even all these when compared with the multitudes distributed through the boundless space of air! The Universe must contain such numbers as exceed the utmost stretch of human imagination.—To obtain some faint conception of the wonderful extent of space, we may remark that stars of the first magnitude, or such as seem to us the largest, are near 19,000,000,000,000 miles from our Sun; and that some of the smaller ones are many times that distance! “Great is our God, and great is his power! O God, who is like unto thee!”

But to return to the animal part of the Creation, we find there innumerable proofs of our hypothesis: we see all the smaller creatures that serve us for food particularly fruitful, and increasing in a much greater proportion than others; and in the bird-

kind it is extremely remarkable, that, lest they should fall short of a certain number of eggs, they are endowed with the power of laying others in the place of those that are taken away ; but when their number is complete, they invariably stop. Here is an operation, like many others that we shall have to observe, much beyond our comprehension. How the mere privation of part should cause a fresh production, is not easy to understand. The organization of an offspring should, in this case, almost seem a voluntary act of the female ; but in what manner it is done, we are not only ignorant at present, but most probably shall ever remain so. Noxious animals multiply in general so slowly as never to become above the power of Man. But whenever we find a great increase of these, we generally discover something given by Providence to destroy and counterbalance them. Many species devour each other, and multitudes, that might otherwise, by their numbers, soon be of serious injury to mankind, afford food to other creatures. The insect tribes increase most rapidly. Some bring so many as two thousand young each : these would soon fill the air were they not destroyed by innumerable enemies.

The number of young produced by every animal invariably bears a certain proportion to the duration of its life. The Elephant is said to live to the age of a hundred years or upwards : the female produces therefore but one young, and this does not arrive at maturity till it is sixteen or eighteen years old. Nearly the same thing may be remarked

in the Rhinoceros, and all the larger animals : but in most of the smaller ones, whose life is short, or whose increase is not so injurious to Man as the increase of these would be, we always find the number of young much greater : many of the Rat and other tribes produce several times in the year, and have from three or four to ten and upwards at a litter.—One species has never been found to increase so much as to exclude the others : and this singular harmony and just proportion has now been supported for several thousand years. “One generation passeth away, and another succeedeth,” but all so equally as to balance the stock in all ages and in all countries.

We will for a moment recur, as it certainly belongs to our subject, and is a material illustration of the above remarks, to the first peopling of the world. In the beginning we find that the life of Man was lengthened to ten or twelve times its present term. After the flood it appears to have been the same. We have an account of one person who lived upwards of nine hundred years. Several of those born in the first century reached four hundred years ; none of the second, that we can discover, reached two hundred and forty ; and only one of the third, arrived at the age of two hundred years. The number of children had also been in full proportion to the age, and at this period cities, nations, and societies began to be formed. In the time of Moses, when the Earth was fully peopled, and from thence to the present, we find that seventy or eighty years was the extent of Man’s life. “The

days of our age," says David, "are threescore years and ten; and though Men be so strong that they come to fourscore years, yet is their strength then but labour and sorrow, so soon passeth it away and we are gone."* These exact adaptions to circumstances and situation can be accounted for in no other manner but by an immediate recurrence to God, their first cause.

In the vegetable Creation we observe the same regularity as in animals. There is scarcely a plant that is not rejected as food by some animals, and ardently desired by others. The Horse yields the Hemlock to the Goat; and Monkshood, which kills the Goat, is said not to injure the Horse. Plants thus, which afford only the natural nourishment to some, are avoided by others as injurious. Poison is, indeed, only a relative term. Several plants that are noxious to Man, are greedily devoured by some of the insect tribes. Thus does every creature enjoy its allotted portion; and all this was contrived for the wisest of purposes. Had the Author of Nature formed all the plants equally grateful to all kinds of animals, it must necessarily have happened that some species would have had an enormous increase, whilst others must have perished for want of food. But as every species must of necessity leave certain plants to certain animals, we find that all are able to obtain their due share of nourishment.

All animals are calculated, in every respect, in the best possible manner, for the climates in which

* Psalm xc. v. 10.

they have to live, and for their separate and peculiar modes of life. In the dreary Northern regions, the dark animals become white, to evade, by their resemblance to the prevailing colour of the country, the quick sight of their enemies. Their clothing also, becomes, during winter nearly double what it is in the Summer. In the torrid climates the Sheep loses his fleece, and is covered with hair. The Camel that traverses the burning sands of the deserts, is formed with soft spungy feet that the heat cannot crack : it has a reservoir for water, which enables it to resist for many days the attacks of thirst, in a country where water is seldom to be had; and it is contented with brouzing on such miserable food as is to be met with in its progress.—We might go on through innumerable instances, but these are reserved, with greater propriety, for the body of the work.

In vegetables again, we observe similar marks of superintendence. Some are Alpine, and can exist only on the high summits of the mountains; some grow in marshes, others on the sandy plains, &c. and each of these is exactly adapted to its peculiar situation. The plants of the desert are nearly all succulent, and able to bear the privation of moisture for an astonishing length of time. Those that are found on the sea-shore could not, in many instances be retained in their situation, did not their roots become so matted among the sand, or strike so deeply down as to render them perfectly immoveable by all the shocks they sustain either from the wind or water. It is also a remarkable circumstance, that

Evergreens grow principally in the hottest climates, where they are chiefly found in the barren woods, thus affording a natural shelter to the various animals from the excessive heats to which they would otherwise be exposed.

If we attend to the contrivances of Nature in the preservation of those animals that would otherwise, in the colder climates, be deprived of food during the Winter, we have an additional source of admiration. Most of the insect-eating tribes either migrate to other countries, or become torpid during this rigorous season. Insects themselves, unable to bear the extreme cold, generally lie hidden within their cases, from whence, at the approach of Spring, they burst, and fly forth. Some animals, as the Beaver, Squirrels, &c. that feed on such vegetables as can be preserved through the winter, do not sleep, but live in their retreats on those provisions which Nature has kindly taught them to store up in the Summer.

The preservation of the young of all animals is not less wonderful than this. However savage may be the natural disposition of the parents, they are remarkably affectionate to their offspring, and provide every thing necessary for them with the utmost tenderness. However powerful their enemies may be, the dam will stand forward in their defence, and frequently die rather than yield them up. In no more than about three species, of all that our books have mentioned, are we able to trace any want of affection in the female parents, to whose care the young generally devolve: and even these

may have arisen from the misapprehensions of the writers, for Nature seems so uniform in this necessary and pleasing operation, that we cannot allow, without superabundant proof, even of exceptions. Quadrupeds, when they bring forth their young, have, secreted in receptacles provided for the purpose, a liquor which we call milk. With this, which is peculiarly easy of digestion, the young are nourished, till their stomachs are able to bear, and their teeth to chew, more solid food. Birds are destitute of this; their offspring therefore are able, as soon as hatched, to take into their stomachs such food as the parents collect for them. The insect tribes are generally brought to life in a nidus that itself affords them nourishment. Thus does an uniformly beautiful contrivance in rearing and nourishing their tender young, pervade every species of the animal Creation.

It is very remarkable that birds of the same species should always form the same kind of nest, of the same materials, laid in the same order, and made exactly of the same figure; so that whenever a nest is seen, the bird that constructed it is immediately known. This circumstance is invariable in all birds and in all countries: with those taken, when just hatched, from the nest, and brought up in a cage, as well as with those that have all their lives been in a wild state.

All creatures know how to use their weapons of defence from mere instinct. The Calf and Lamb push with their head long before the horns begin to shoot. A young Boar, in the same manner, knows

the use of his tusks; a Cat of its claws; a Dog of his teeth; a Horse of his hoofs; and the Cock of his spurs. The Calf, however young, never attempts to bite its enemy; the Foal does not push with its head; nor do the Dog and Cat make use of their heels.

From the animal we will once again turn to the vegetable kingdom, and examine into the contrivances of Nature there. If we look around us we shall find it a very difficult matter to discover an entirely barren spot. If, by any devastation such is made, it does not long remain unoccupied. Seeds are soon scattered over it: the downy ones of the thistles, wafted by the winds, are the first to take root, and after these come various other plants, till at length the whole space is filled. If a rock is left entirely bare by the receding of water, the minute crustaceous Lichens in a few years entirely cover it. These dying, turn to earth, and the imbricated Lichens now have a bed to strike their roots into. Those also die, and various species of Mosses succeed: and when, after some time, a sufficiency of mould has been formed, the larger plants, and even shrubs, take root and live.

The quickness of vegetation in hot and cold climates is so astonishing as to be perfectly unaccountable, were we not able to refer it to a most exalted wisdom.

The following is the Calendar of a Siberian or Lapland Year.

- June 23. Snow melts.
July 1. Snow gone.
9. Fields quite green.
17. Plants at full growth.
25. Plants in flower.
August 2. Fruits ripe.
10. Plants shed their seed.
18. Snow.

From August 18, to June 23, Snow and Ice.

Thus it appears that from their first emerging from the ground, to the ripening of their seeds, the plants take but a month : and Spring, Summer, and Autumn, are crowded into the short space of fifty-six days.*

Again, in the torrid climates, where a scorching heat, destructive to general vegetation, prevails through the greater part of the year, we have a similar wonderful contrivance. In India, when the wet season commences, the rain falls in such abundance as to cover the whole surface of the Earth, as if with a sheet ; so that in the course of a few hours, ponds of considerable depth are formed in every hollow place, in many of which there had not been, for several months past, the smallest appearance of moisture, not even so much as to afford nourishment to any of the plants. No sooner, however, does this rain begin to fall, than in the fields, which were to appearance as destitute of vegetation as the most frequented roads in our

* *Amœnitates Academicæ*, vol. iv.—Stillingfleet.

country are, vegetation commences; and in less than twenty-four hours the appearance of verdure can be distinctly perceived whichever way the eye is directed. But the most surprising circumstance that occurs on this occasion is, that almost as soon as this verdure begins to appear, these newly formed ponds are found swarming with fish of such a size as to admit of being taken with nets, and to afford food for man: they are esteemed a great delicacy, and therefore universally known. This fact is related by Dr. Anderson, on the authority of a very respectable person of Bombay, and was not stated till the fullest enquiries had been made, and the most satisfactory evidence had appeared respecting it.*

Thus does the uniform voice of Nature exclaim aloud that "God is Love:" and that "the merciful and gracious Lord hath so done his marvellous works, that they ought to be had in remembrance." The whole material system throughout Heaven and Earth, presents a varied scene rich in use and beauty, in which nothing is lost, and in which, according to our former observations, the meanest and minutest creatures have their full designation and importance.—"Thus saith the Lord, thy Redeemer, and he that formed thee from the womb, I am the Lord, who maketh all things, who stretcheth forth the Heavens along, and spreadeth abroad the Earth by myself."

Nothing of all these various existences was formed in vain: and that which is, however it may

* And, Rec. in Ag. i. 260.

appear to our confined and imperfect comprehensions, is formed with supreme wisdom. It does not become us to pry too boldly into the designs of God: the clay shall not impiously demand the intentions of the Potter. We, whose lives are but those of a day, are unable to judge of the councils of that Providence, whose economy regards, not the objects merely of our senses, but the whole system of Nature. We cannot scrutinize the performances of God, nor can we possibly, with all our boasted wisdom and cunning, discover the grand connexions between incidents that lie widely separate in time, and which are only known to power infinitely surpassing ours. The Creator did not plan the order of Nature according to our confined principles of economy. The stupendous performance of the Deity is one throughout the Universe; and if Providence does not always calculate exactly according to our mode of reckoning, it would but become our inferior stations and judgment, instead of industriously seeking out imperfections, to discover that these lie alone in our own erroneous powers of discrimination. It would be well, if, instead of looking to self-interest only, in the works of the Creation, we could, according to a late writer, consider these things in the same light as when different seamen are waiting at one port for fair winds, each to the country to which he is bound; where we plainly see it impossible that all should be satisfied.

In Lapland, and some others of the Northern regions, Providence has kindly contrived that what

would seem an evil, and is in some respects an inconvenience to the inhabitants, should become a means of their preservation. They are pestered with multitudes of Gnats which tease them so much by their stings, that to defend themselves they have recourse to smearing their faces, and keeping constantly a thick smoke in their cottages. These insects deposit their eggs in the water, and thus bring into the country immense numbers of aquatic birds, which feed on them ; and which constitute the principal support of the inhabitants ; and thus are these people unhappy in the very circumstance that procures them life. If it be asked why it is necessary they should be unhappy in order to live ; we answer, that, having developed one step, we find ourselves involved as deeply in obscurity, as those whose short-sightedness has not penetrated thus far ; but we are taught by this not to rest too securely on our own judgments (which are frequently built without a proper basis), when we are about to censure the performances of superior intelligence ; and to suppose that as one step more than we suspected has been explained, so might the rest be rendered equally clear, had we but the capacity to comprehend them.

In our own country birds are, almost invariably, considered as injurious to the industry of the farmer ; they are said to devour his crops, and to destroy at least one half of the fruits of his labour. Little does the farmer suspect, that, were he deprived of these so much detested creatures, but a very small portion of the present produce of the

Earth could be brought to perfection. Their manure alone is of very considerable value ; but all the slender-billed birds, the Lark, Black-bird, Thrush, Red-breast, Goldfinch, Hedge-sparrow, and many others, live almost entirely on insects ; and are therefore peculiarly beneficial to him. Even those that devour the grain destroy infinitely more of the noxious insects, than will compensate for any damage they commit : it has been calculated, with some accuracy, that a single pair of the common Sparrows, while their young is in the nest, destroy on an average above *three thousand* Caterpillars every week. Does the farmer consider this, and yet issue an unlimited edict for their destruction ? Mankind in general want a proper degree of confidence in that Being, who cannot form any thing in vain : trusting only in their own judgment, which, every moment of their lives they find in error, they impiously censure, only because they cannot understand.

From all the preceding observations, it appears that Natural History affords us a much more extensive moral than has generally been supposed. And the blind curiosity, which formerly was the principal motive in making collections and studying the science, is now giving way to more noble and more estimable ideas ; and there are yet, “in the instructive book of Nature, many leaves, which hitherto no mortal has perused.”*

It is evident that the general tendency of the

* Pontoppidan, Pref. p. 1.

study is to lead us from the admiration of the works, to the contemplation of their author; to teach us to look, through Nature, up to Nature's God. It is a study which terminates in the conviction, the knowledge and the adoration of that Being, to whom we owe every thing that we enjoy.

When Mr. Mungo Park, in the wilds of Africa, had been plundered by a banditti, nearly of all he possessed, we find of what material use his contemplations were to him, on a subject, that to many persons would appear extremely insignificant. "Whichever way I turned," says he, "I saw myself in the midst of a vast wilderness, in the depth of the rainy season; naked and alone: surrounded by savage animals, and by Men still more savage. I was five hundred miles from any European settlement. All these circumstances crowded at once on my recollection; and I confess that my spirits began to fail me. I considered my fate as certain, and that I had no alternative but to lie down and perish. The influence of religion, however, aided and supported me. I reflected that no human prudence or foresight could possibly have averted my present sufferings. I was indeed a stranger in a strange land, yet I was still under the protecting eye of that Providence, who has condescended to call himself the Stranger's Friend. At this moment, painful as my reflections were, the extraordinary beauty of a small Moss, in fructification, irresistibly caught my eye. I mention this to shew from what trifling circumstances the mind will sometimes derive consolation; for though the whole plant was not larger than the top of one of my fingers, I could

not contemplate the delicate conformation of its roots, leaves, and capsula, without admiration. Can that Being (thought I) who planted, watered, and brought to perfection, in this obscure part of the world, a thing which appears of so small importance, look with unconcern upon the situation and sufferings of creatures formed after his own image?—Surely not ! Reflections like these would not allow me to despair. I started up, and, disregarding both hunger and fatigue, travelled forwards, assured that relief was at hand ; and I was not disappointed.”*

It is impossible to consider properly all these important objects, and then unconcernedly to ask, “*of what use is this Science.*”

Natural History is a study that seems well calculated to employ the *female* mind : and it has this advantage over most other pursuits, that the more earnestly it is attended to, the more interesting it becomes. It is a study also that meliorates the heart, at the same time that it captivates the understanding. Every branch of it teems with delight and instruction. Even Botany, which has been ignorantly stigmatized as a study merely of names, is, when entered upon with spirit, a most instructive and enticing pursuit :

Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume. We may read, and read,
And read again, and still find something new ;
Something to please, and something to instruct
E'en in the noisome weed.

* Park's Travels, 243.

It would be no inconsiderable improvement to the rising generation, if Natural History could in some measure be introduced to their attention, in preference to novels and the usual pernicious books of entertainment. If they could have recourse to a rational source of amusement, rather than corrupt their hearts and bewilder their imaginations with these, the common trash of *Circulating Libraries*:—Early impressions frequently afford such a stamp to the future character, as to render the proper introduction of them a matter of the utmost importance.—That thoughtless cruelty which we now so frequently observe toward the inferior orders of created beings, would scarcely be known, could we but teach mankind that the same God “who gives its lustre to an insect’s wing” ordains with it a right to life and happiness as well as ourselves; and that wantonly to deprive it of these is an offence against His works who formed nothing in vain.—An attention to Nature from childhood would also contribute greatly to the happiness of mankind in general, and to that of females in particular, by enabling them to overcome all those fears and vulgar prejudices which have commonly attached to some of the smaller quadrupeds, and to the reptile and insect tribes. They would then possess no greater repugnance towards handling a Lizard, a Beetle, or a Spider, than they now do in that of a Bird, or a Flower.

It is necessary however to inform them, that they must not be contented merely with reading: the principal use of this is to direct them to contemplations on the objects themselves, and to induce a

taste for more minute investigation ; but it is from this investigation only that they will be enabled to reap the advantages of the science, and such advantages as books alone do not always bestow.

These are thy glorious works, Parent of Good,
Almighty ! Thine this universal frame,
Thus wondrous fair ; thyself how wondrous then !
Unspeakable, who sitt'st above these Heav'ns,
To us invisible, or dimly seen
In these thy lowest works ; yet these declare
Thy goodness beyond thought, and pow'r divine !

THE EMPIRE OF NATURE.

THE Empire of Nature is divided by Linnæus into three essential Kingdoms; the first consisting of Minerals, the second of Vegetables, and the third of Animals.

The MINERAL KINGDOM occupies in rude masses the interior parts of the Earth; it is generated from salts, is accidentally mixed together, and formed by chance in the ground.—The VEGETABLE KINGDOM clothes the surface of the earth with verdure; it imbibes moisture through its roots, respire air by its leaves, and continues its various kinds by means of seed dispersed within proper limits.—The ANIMAL KINGDOM adorns the external parts of the Earth with sentient beings; these have voluntary motion, respire, are impelled to action by the cravings of want, by love, and by pain. They keep within proper bounds, by preying on them, the numbers both of animals and vegetables.

THE ANIMAL KINGDOM

Is divided into six classes: Mammalia, consisting of the Quadrupeds and Whales; Birds; Amphibia; Fishes; Insects; and Worms.

The MAMMALIA have a heart with two auricles and two ventricles; and warm and red blood: they respire regularly by means of lungs: they are viviparous, and suckle their young with milk from teats formed for the purpose: the jaws are placed horizontally, one over the other, and covered with lips; within which the teeth are, for the most part, included: except those that are entirely confined to the water, the animals of this class walk on four feet, and are more or less covered with hair: most of them have tails.

BIRDS are distinguished externally by their covering of feathers: the heart has two auricles and two ventricles; and the blood is warm and red: they respire regularly through lungs: have a horny bill, without teeth, and incumbent horizontal jaws: they are oviparous, and have their eggs covered with a hard, calcareous shell: their covering is of feathers, lying over each other like the slates on the roof of a house: their extremities are, two legs and feet, two wings, their horny beak, and a heart-shaped rump.

AMPHIBIA have only one auricle and one ventricle to the heart;* and the blood cold and red: they respire by means of lungs, not regularly, but according to the will of the animals: the jaws are horizontal and incumbent on each other: they are, for the most part, oviparous, and the eggs are covered with a soft membrane: the general covering

* We ought probably rather to say that they have two ventricles, with an immediate communication between them.

of the animals is a naked skin : some have feet and others are destitute of them.

FISHES have one auricle and one ventricle to the heart ; and blood cold and red : they have compressed external gills instead of lungs : the jaws are horizontal and incumbent on each other : most of them are oviparous ; and the eggs have no white : they are covered with imbricated scales, or such as lie over each other like the tiles of a roof : being inhabitants only of the water, their motive organs are fins fitted for swimming.

INSECTS have to the heart one auricle and one ventricle, propelling a cold, and colourless sanies in the place of blood : they breathe by pores arranged on the sides of their bodies : their jaws open laterally : they have a tongue, eyes, and antennæ on the head ; but are destitute of brain, ears, and nostrils : they are covered by a bony coat of mail : all of them have legs, and many are possessed of wings.

WORMS. The heart of these animals has, for the most part, one ventricle, without any auricle, and propels a cold, colourless sanies : their breathing pores are obscure and uncertain : many of them are both male and female : they are possessed of tentacula, and in general of eyes ; but the brain, ears, and nostrils are wanting : some have calcareous shells, others spines, and others again are entirely naked : they have neither feet nor fins.

The Mammalia are subdivided into seven orders : Primates, Bruta, Feræ, Glires, Pccora, Belluæ, Cete.

1. The *Primates* have four parallel front or cutting-teeth in each jaw ; except in some species of

Bats, which have either two only or none : they have one canine-tooth on each side in both jaws.—The females have two pectoral mammæ or breasts. The two fore-feet resemble hands, having fingers, for the most part furnished with flattened oval nails. Their food is chiefly vegetable.—The principal animals of this order are Man, the Ape, and Lemur tribes, and the Bats.

2. The *Bruta* have no front-teeth in either jaw : their feet are armed with strong, blunt, and hoof-like nails : their form is to appearance clumsy, and their pace somewhat slow. Their food is principally vegetable.—None of the animals belonging to this order are found in Europe ; they consist principally of the Sloths, the Ant-eaters, the Rhinoceros, Elephant, and Manati.

3. The *Feræ* have generally six front-teeth, of a somewhat conical shape, both in the upper and under jaw : next to these are strong and sharp canine-teeth ; and the grinders are formed into conical or pointed processes. Their feet are divided into toes, which are armed with sharp, hooked claws. This tribe is predacious, living almost entirely on animal food.—It consists of the Seal, Dog, Cat, Weasel, Otter, Bear, Opossum, Kangaroo, Mole, Shrew, and Hedge-hog genera.

4. The *Glires* are furnished with two remarkably large and long front-teeth both above and below ; and are destitute of canine teeth. Their feet have claws, and are formed both for bounding and running. They feed on vegetables.—The genera are

the Porcupine, Cavy, Beaver, Rat, Marmot, Squirrel, Dormouse, Jerboa, Hare, and Hyrax.

5. The *Pecora* have several blunt, wedge-like front-teeth in the lower jaw, and none in the upper. Their feet are armed with cloven hoofs. They live entirely on vegetable food; and they all ruminate or chew the cud.—The genera are the Camel, Musk, Deer, Giraffe, Antelope, Goat, Sheep, and Ox.

6. The *Belluæ* have obtuse front-teeth. The feet are armed with hoofs, in some whole or rounded, in others obscurely lobed or subdivided. They live on vegetable food. The genera are the Horse, Hippopotamus, Tapir, and Hog.

7. The *Cetæ* or Whales, although they resemble the fishes in external appearance, arrange very properly among the Mammalia, having warm blood, similar lungs, teats, &c.—Instead of feet they are provided with pectoral fins and an horizontally flattened tail, fitted for swimming. They have no hair. The teeth are, in some species, cartilaginous, and in others bony. In the place of nostrils they have a tubular opening on the top of the head, through which they occasionally spout water. They live entirely in the sea, feeding on the soft marine animals, and vegetables.

The subdivisions of the Birds, Amphibia, Fishes, Insects, and Worms, are left as introductions, each to its own class.

QUADRUPEDS.

ORDER I. PRIMATES.

THE APE TRIBE.

THE animals of this tribe, both in their external and internal structure, have a very considerable resemblance to the human race: and in their habits and instincts we observe a much nearer approach to us than in those of any other part of the brute Creation. They are endowed with most retentive memories, are suspicious, forward, fond of imitation, and full of gesticulations and grimace. When injured or offended they use threatening gestures, chatter with their teeth; and when pleased, appear to laugh. The dispositions of many of the species are so perverse and unmanageable, that it is with difficulty they can be brought to learn any thing: others are indeed of a milder nature, and shew a degree of attachment to those who are kind to them, but almost all are endowed with mischievous

propensities. They are also in general filthy, obscene, and thievish.*

All the species, except one, (the Barbary Ape,) are confined to the Torrid Zone, where for the most part they live on vegetable food; and although in our books on Natural History, we have about *sixty* different ones described, we are given to understand that these are but a small portion of the numbers that have even been seen about the forests of hot climates. Bosman says he saw an immense number of different species on the coast of Africa,† and Condamine tells us that it would occupy a volume to describe accurately only the specific characters of those to be found along the banks of the river of Amazons. The forests of Africa, India, China, Japan, and South America swarm with them.‡

Several of them have pouches in their cheeks, in which they macerate their food for some time before they chew and swallow it. They are fond of hunting after Fleas, both in their own fur, and in that of their companions; possess a very delicate sense of feeling; and are able to leap with surprising agility from tree to tree. Most of them are gregarious, associating in vast companies; but the different species always keep apart, and in separate districts, never mixing with each other.§

This extensive genus is distinguished from all others by the animals having in each jaw four front-teeth, placed near together: the canine-teeth longer

* Kerr i. 54.—† Bosman, 242.—‡ Buffon's Quad.—§ Kerr i. 54.

than the rest, and distant from them; and the grinders obtuse.

It is usually divided into three sections, namely, Apes, Baboons, and Monkies.

Apes are destitute of tails, they walk upright, their posteriors are fleshy, their legs are furnished with calves, and their hands and feet nearly resemble the human. In their manners they are for the most part mild and gentle, and they imitate human actions more readily than any of the others.—Baboons have short tails; they generally walk on all fours, seldom going upright, except when constrained to it in a state of servitude. Some of them are as tall as Men, have long faces, sunk eyes, and are otherwise extremely disgusting. In their dispositions they are usually very sullen and ferocious.—Monkies have tails in general longer than their bodies. One division of these, consisting of about ten species, with *prehensile* tails, that is, such as can be twisted round any object, so as to answer the purpose of an additional hand to the animals, is almost entirely confined to America.—The Monkey tribe is altogether the most active and lively of the whole genus; they are greatly addicted to thieving, and scarcely ever imitate human actions but with a mischievous intention.—Neither the Lion, the Tiger, nor any of the feline tribe are the most formidable enemies to the Monkies: their dominion in the forests is not disputed by any of these ferocious animals, from whom they easily escape by their nimbleness in running up the trees. The Serpent tribes alone, which reside with them in the

trees, possess the art of surprizing them during their repose ; and perpetual war is sustained between these two races.* Conscious however of their own activity and safety when awake, Labat says he has seen in Africa “Monkies playing their gambols on the very branches where Snakes were reposing ; and jumping over them backwards and forwards, although the Serpents of this country are naturally vindictive, and always ready to bite any thing that disturbs them.†

In many parts of India the animals of this genus are made objects of worship by the natives, and temples of the greatest magnificence are erected in honor of them.‡ Their numbers are almost infinite: they frequently come in troops into the cities, and enter the houses at all times with perfect freedom ; in Calicut, however, the inhabitants keep them in a great measure out of their dwellings, but to effect this they are constrained to have all their windows latticed. In Amadabad, the capital of Guzarat, there are three hospitals for animals, where lame and sick Monkies, and even those which, (without being diseased) chuse to dwell there, are fed and cherished. Twice every week the Monkies of the neighbourhood assemble spontaneously in the streets of the city. They then mount upon the houses, each of which has a small terrace or a flat roof, where they lie during the

* Buffon's Quad. viii. 152.—† Relat. d'l'Afriq. Occident. p. 317:

‡ Penn. Quad. i. 172.

great heats. On these two days the inhabitants are always careful in laying upon the terraces rice, millet, or fruit; for whenever, by any accident, they are prevented from doing it, the disappointed animals become so furious, that they break the tiles, and commit various other outrages.*—When the Portuguese plundered the island of Ceylon, they found in one of the temples dedicated to these animals, a small golden casket, containing the tooth of an Ape. This relic the natives held in such superstitious veneration, that they offered no less than 700,000 ducats to redeem it. The Viceroy, however, in order to discourage their superstition, directed it to be burnt.† About three years afterwards, a fellow who accompanied the Portuguese Ambassador, having got a similar tooth, pretended that he had recovered the old one, which so rejoiced the Priests, that we are informed they purchased it for a sum of upwards of 10,000 pounds sterling.‡

THE ORAN OTAN.§

The Oran Otan approaches in external appear-

* Buffon's Quad.

† Linschotten Voy. p. 33. quoted in Pennant's Quad. i. 172.

‡ Hamilton i. 347.

§ Oran Otan in the Malayan language signifies Wild Man, or rather, a Being of Intelligence.

SYNONYMS.—*Simia Satyrus*. *Simia Troglodytes*. *Linn.*—Orang-Outang. *Var.*—Great Ape. *Penn.*—Man of the Woods. *Edwards.*—Drill. *Charlton.*—Smitten. *Bosman.*—Barris. *Purchas.*—Chimpanzee. *Scotin.*—Pongo, in some parts of the East Indies.—Jocko, in Congo. *Buffon.*—*Shaw's Gen. Zool. pl. 1, 2, 3, 4.*

ance much more nearly to the human form than any others of the Ape tribe: and it has, from this circumstance, even sometimes obtained the appellation of "Man of the Woods."

The specimens of the Oran Otan, which have been brought into Europe have seldom exceeded three feet in height; but it is said that when full grown their height is at least six feet, and that their strength is then so great, that they are able with ease to overpower the most muscular Man. Their colour is generally a kind of dusky brown; their feet are bare, and their ears, hands, and feet, nearly resemble the human; and indeed their whole appearance is such as to exhibit a most striking approximation to the human figure. They have however, a flatter nose, more oblique forehead, and the chin without any elevation at the base. The eyes are likewise too near each other, and the distance betwixt the nose and mouth much too great.

When Dr. Tyson's Oran Otan, which we shall soon have occasion farther to notice, was examined anatomically, a surprizing similitude was also seen to prevail in its internal conformation. It differed however from Man in the number of its ribs, having thirteen, whereas in Man there are but twelve. The vertebræ of the neck were also shorter, the bones of the pelvis narrower, the orbits of the eyes were deeper, the kidneys rounder, the urinary and gall bladders were longer and smaller, and the ureters of a different figure.* Such were the principal distinctions between the internal

* Anatomy of a Pigmy.

parts of this animal and those of Man; in almost every thing else they were exactly the same, and discovered an astonishing congruity. Indeed many parts were so much alike in conformation that it might have excited wonder how they were productive of such few advantages. The tongue, and all the organs of the voice, were the same, and yet the animal was dumb; the brain was formed in the same manner with that of Man, and yet the creature wanted reason: an evident proof, as M. Buffon finely observes, that no disposition of matter will give mind; and that the body, how nicely soever formed, is formed in vain, when there is not infused a soul to direct its operations.

These animals are found in the most desert places in the interior of Africa, and the island of Borneo. They feed on fruits, and, when they happen to approach the shore, will eat shell-fish or crabs. Their resting places are in trees, where they are secured from the attacks of all predacious creatures except Serpents.* We are assured by a traveller, quoted by the Count de Buffon, that he saw their habitations, composed of branches of trees, so interwoven as to protect them from the heat of the Sun;† and we are told by another person that, in the breeding time the males relinquish these to the females and their young.‡ The Oran Otans are not, in their actions, lively and frolicsome, but are much more deliberate and sedate than the rest of the tribe. If a

* Penn. Quad. i. 167.

† Jobson, in Buff. Quad. viii. 33.

‡ Mathews's Voyage to Sierra Leona.

Negro is unfortunate enough to wander in the woods, and be discovered by them, they generally attack and kill him. They are able even to drive off the Elephant; with a piece of wood in their hands, or only with their fists, they will so tease the huge beast, that in the end he is induced to retire. They have been known to throw stones at those who have offended them. Bosman informs us that behind the English fort at Wimba on the coast of Guinea, several of these Apes fell upon two of the Companies' slaves, overpowered them, and were about to poke out their eyes with some sticks, when a party of Negroes happened to come up at a fortunate moment to their rescue.* It is said that they sometimes steal the Negresses, and carry them off into the woods.† A Negro boy was carried off by an Oran Otan, and lived with them upwards of a year: on his return he described many of them as being as tall and more bulky than a Man, and he says that they never attempted to injure him in any respect.‡ The young is said to hang on the belly of the dam, with its hands fast clasped about her: and whenever the females are killed these will always suffer themselves to be taken.§

This is all the information we have been able to obtain respecting the Oran Otan in its wild state: the following are accounts of it therefore in a state of captivity and domestication.

The manners of the Oran Otan, when in con-

* Bosman, 242.—† Penn. Quad. i. 167.—‡ Buff. Quad. viii. 83.—
§ Purchas's Pilgrims, 982.

finement, are gentle, and, for the most part, harmless, perfectly devoid of that disgusting ferocity so conspicuous in some of the larger Baboons and Monkies. It is mild and docile, and may be taught to perform with dexterity a variety of entertaining actions in domestic life.

Dr. Tyson, who about a century ago, gave a very exact description of a young Oran Otan then exhibited in London, assures us, that, in many of its actions, it seemed to display a very high degree of sagacity, and was of a disposition uncommonly gentle; "The most gentle and loving creature, (says he,) that could be. Those that he knew a-ship-board he would come and embrace with the greatest tenderness; and, as I was informed, though there were Monkies aboard, yet it was observed, he never would associate with any of them, and, as if nothing akin to them, would always avoid their company." He used sometimes to wear clothes, and at length became very fond of them: would put part of them on without help, and carry the remainder in his hands to some one of the company for their assistance. He would lie in bed, place his head on a pillow, and pull up the bed-clothes to keep himself warm, exactly as a man.*

M. Vosmaer's account of the manners of an Oran Otan, brought into Holland in the year 1776, and lodged in the menagerie of the Prince of Orange, is so exceedingly curious that we shall present the reader with an extract from it.

* Anatomy of a Pigmy.

“ This animal,” says M. Vosmaer, “ was a female : its height was about two Rhenish feet and a half. It shewed no symptoms of fierceness or malignity, and was even of a somewhat melancholy appearance. It was fond of being in company, and shewed a preference to those who took daily care of it, of which it seemed to be sensible. Often when they retired, it would throw itself on the ground, as if in despair, uttering lamentable cries, and tearing in pieces the linen within its reach. Its keeper having sometimes been accustomed to sit near it on the ground, it frequently took the hay of its bed, and laid it by its side, and seemed by every demonstration, to invite him to be seated near. Its usual manner of walking was on all fours, like other Apes ;* but it could also walk on its two hind feet only. One morning it got unchained, and we beheld it with wonderful agility ascend the beams and rafters of the building ; it was not without some pains that it was retaken, and we then remarked an extraordinary muscular power in the animal ; the assistance of four men being necessary in order to hold it in such a manner as to be properly secured. During its state of liberty it had, amongst other things, taken the cork from a bottle of Malaga wine, which it drank to the last drop, and had set the bottle in its place again. It ate almost every thing which was given to it ; but its chief

* There is no doubt whatever, from the horizontal position of the pelvis, and some other circumstances, that this is the natural mode of walking of the whole tribe ; and that their going entirely upright is only the effect of education.

food was bread, roots, and especially carrots; all sorts of fruits, especially strawberries: and it appeared extremely fond of aromatic plants, and of the leaves and root of parsley. It also eat meat, both boiled and roasted, as well as fish. It was not observed to hunt for insects, like other Monkeys; was fond of eggs, which it broke with its teeth, and sucked completely; but fish and roasted meat seemed its favourite food. It had been taught to eat with a spoon and a fork. When presented with strawberries on a plate, it was extremely pleasant to see the animal take them up, one by one, with a fork, and put them into its mouth, holding, at the same time, the plate in the other hand. Its common drink was water, but it also very willingly drank all sorts of wine, and particularly Malaga. After drinking, it wiped its lips; and after eating, if presented with a tooth-pick, would use it in a proper manner. I was assured, (continues our writer) that on ship-board it ran freely about the vessel, played with the sailors, and would go like them into the kitchen for its mess. At the approach of night it lay down to sleep, and prepared its bed, by shaking well the hay, on which it slept, and putting it in proper order; and lastly, covering itself warm with the coverlet. One day, seeing the padlock of its chain opened with a key, and shut again, it seized a little bit of stick, and put it into the key-hole, turning it about in all directions, endeavouring to see whether the padlock would open or not. This animal lived seven months in Holland. On its first arrival it had but very little hair, except on its back and arms: but on the approach of

winter it became extremely well-covered ; the hair on the back being three inches in length. The whole animal then appeared of a chesnut colour ; the skin of the face, &c. was of a mouse colour, but about the eyes and round the mouth of a dull flesh colour." It came from the island of Borneo, and was, after its death, deposited in the museum of the Prince of Orange.*

The Oran Otan, which the Count de Buffon saw, walked always on two feet, even when carrying things of considerable weight. His air was melancholy, his gait grave, his movements measured, his disposition gentle, and very different from that of other apes. He would present his hand to conduct the people who came to visit him, and walk as gravely along with them as if he had formed a part of the company. He frequently used to sit with company at dinner. When he would unfold his towel, wipe his lips, use a spoon or a fork to carry his victuals to his mouth, pour his liquor into a glass, and make it touch that of a person who drank along with him, when invited to take tea, he brought a cup and saucer, placed them on the table, put in sugar, poured out the tea, and allowed it to cool before he drank it. All these actions he performed without any other instigation than the signs or verbal orders of his master, and often even of his own accord.†

Hamilton saw an Oran Otan in Java ; he says, its habit was grave and melancholy : that it would

* Shaw's Gen. Zool. i. 7.

† Buff. Quad. viii. 86.

light a fire, and blow it with its mouth; and that it would broil a fish to eat with its boiled rice, imitative of the custom of the human race.*

One of these animals that Le Comte saw in the Streights of Molucca is described as possessing manners very similar. It walked upright, and used its hands and arms like a man; and indeed its actions were in general so nearly allied to those of mankind, and its passions so expressive and lively, that a dumb person could scarcely render himself better understood. Its joy or anger it signified by stamping with its foot on the ground. It had been taught to dance; and would at times cry like a child. While on board the vessel it frequently ran up the rigging, and played as many antics aloft, to divert the company, as a rope-dancer. It could leap with surprising agility and security from one rope to another, though fifteen or twenty feet asunder.†

We are told by Pyrard, that these animals are found at Sierra Leona, where they are strong and well formed, and so industrious, that, when properly trained and fed, they work like servants: that, when ordered, they will pound any substances in a mortar; and that they are frequently sent to fetch water from the rivers in small pitchers, which they carry full on their heads; but, when they arrive at the door of the dwelling, if these are not soon taken off they suffer them to fall, and when they perceive the pitcher overturned and

* Hamilton, ii. 131.

† History of China.

broken they utter aloud their lamentations.* Barbot says also, that they are frequently rendered of use in the settlements on the coast of Guinea, by being taught to turn the spit, and watch the roasting of meat, which they perform with considerable dexterity and address.†

M. de la Brosse, who purchased from a Negro two Oran Otans, remarks that they would sit at table like men, and eat there every kind of food without distinction. That they would use a knife, fork, or spoon, to cut or lay hold of what was put on their plate. That they drank wine and other liquors. At table, when they wanted any thing, they easily made themselves understood to the cabin-boy; and when the boy refused to answer their demands, they sometimes became enraged, seized him by the arm, bit, and threw him down. The male was seized with sickness, and he made the people attend him as if he had been a human being. He was even bled twice in the right arm: and, whenever afterwards he found himself in the same condition, he held out his arm to be bled, as if he knew that he had formerly received benefit from that operation.‡

Two of these animals were sent from the forests of the Carnatic, by a coasting vessel, as a present to the governor of Bombay. They, like the rest of the species, had many human actions, and seemed, by their melancholy, to have a rational sense of

* Voy. de Fran. Pyrard, in Buff. Quad. viii. 92.
Churchill's Coll. v. 101.

† Barbot, in

‡ Buff. Quad. viii. 89.

their captivity. They were scarcely two feet high, but walked erect, and had, very nearly, the human form. The female was taken ill during the voyage, and died: and the male, exhibiting every demonstration of grief, seemed to take it so much to heart, that he refused to eat, and lived only two days afterwards.*

“ I saw at Java, (says Guat,) a very extraordinary Ape. It was a female. She was very tall, and often walked erect on her hind feet. Except on the eye-brows, there was no hair on her face, which pretty much resembled the grotesque female faces I had seen among the Hottentots at the Cape. She made her bed very neatly every day, lay upon her side, and covered herself with her bed-clothes. When her head appeared to ache, she bound it up with a handkerchief, and it was amusing to see her thus hooded in bed. I could relate many other little circumstances which appeared to be extremely singular; but I by no means admired them so much as most other persons did, because, as I knew the design of bringing her to Europe to be exhibited as a shew, I was inclined to think that she had been taught many of these monkey-tricks, which the people considered as natural to the animal. She died in our ship, about the latitude of the Cape of Good Hope.*

Gemelli Carreri gives an instance of something very analogous to reason in these animals. He tells us that when the fruits on the mountains are ex-

* Grose i. 132

† Voy. de Fr. le Guat, in Buff. Quad. viii. 92.

hausted, they frequently descend to the sea coasts, where they feed on various species of shell-fish, but in particular on a large species of oyster, which commonly lies open on the shore: fearful, he says, of putting in their paws, lest it should close and crush them, they insert a pretty large stone within the shell, which prevents it from closing, and then drag out their prey and devour it at leisure.*

Pere Carbasson brought up an Oran Otan, which became so fond of him, that wherever he went it always seemed desirous of accompanying him: whenever, therefore, he had to perform the service of his church, he was always under the necessity of shutting it up in a room. Once, however, the animal escaped, and followed the father to the church, where; silently mounting on the sounding board above the pulpit, he lay perfectly still till the sermon commenced. He then crept to the edge and overlooking the preacher, imitated all his gestures in so grotesque a manner that the whole congregation was unavoidably caused to laugh. The father, surprized and confounded at this ill-timed levity, severely reproved his audience for their inattention. The reproof failed in its effect, the congregation still laughed, and the preacher, in the warmth of his zeal, redoubled his vociferations and his actions: these the Ape imitated so exactly, that the congregation could no longer retain themselves, but burst out into a loud and continued laughter. A friend of the preacher at length stepped up to him, and

* Buff. Quad. viii. 93.—Barbot v. 101.

pointed out the cause of this improper conduct; and such was the arch demeanour of his animal, that it was with the utmost difficulty he could command the muscles of his countenance, and keep himself apparently serious, while he ordered the servants of the church to take him away.

THE BARBARY APE.*

The Barbary Ape has a face not much unlike that of a dog. Its general length is about four feet. The colour of the back is a greenish brown, and that of the belly pale yellow. The checks are furnished with pouches.†

The forests of India, Arabia, and Africa, are the habitations of this species; and they are so common in Barbary, that trees are sometimes literally covered with them.‡ A few are found near Gibraltar.

In their manners they are both fierce and mischievous. They live on vegetables, and are said to assemble at times in the open plains of India, in vast troops, and if they see any of the women going to market, they immediately attack them, and take away their provisions.§ Tavernier, apparently alluding to this species, says, that some of the inhabitants of India have an odd mode of amusing themselves at their expence. These people place five or six baskets of rice, forty or fifty yards asunder, in an open ground near their retreat, and by every

* SYNONYMS—*Simia Inuus*. Linn.—Magot. Buffon.—Momenet. Johnston.—Yellow Ape. Du Halde.—Barbary Ape. Pennant.—Sharw's Gen. Zool. pl. 7.—Bew. Quad. p. 417.

† Penn. Quad. i. 171.—‡ Church.—§ Penn. Quad. i. 171.

basket put a number of stout cudgels, each about two feet long: they then retire to some hiding place, not far distant, to wait the event. When the Apes observe no persons near the baskets, they soon descend in great numbers from the trees, and run towards them: they grin at each other for some time before they dare approach; sometimes they advance, then retreat, seeming much disinclined to encounter. At length the females, which are more courageous than the males, especially those that have young ones, (which they carry in their arms as women do their children), venture to approach the baskets, and as they are about to thrust their heads in to eat, the males on the one side advance to hinder them. Immediately the other party comes forward, and the feud being kindled on both sides, the combatants seize the cudgels and commence a most severe fight, which always ends with the weakest being driven into the woods with broken heads and limbs. The victors, he tells us, then fall to in peace, and devour the reward of their labour.*

He also informs us, that as he was himself travelling in the East Indies, in company with the English president, a great number of large Apes were observed upon the trees around them. The president was so much amused, that he ordered his carriage to stop, and desired Tavernier to shoot one of them. The attendants, who were principally natives, and well acquainted with the manners of these animals, begged him to desist, lest those that escaped might do them some injury in revenge for

* Travels in India.

the death of a companion. Being, however, still requested, he killed a female, which fell among the branches, letting her little ones, that clung to her neck, fall to the ground. In an instant all the remaining Apes, to the number of sixty or upwards, descended in fury, and, as many as could, leaped upon the president's coach, where they would soon have strangled him, had not the blinds been immediately closed, and the number of attendants so great, as, though not without difficulty, to drive them off. They however continued to run after and tease the servants for at least three miles from the place where their companion was slain.*

This species of Ape agrees well with our climate, and is very common in exhibitions in this country. It walks on four in preference to two legs; and uses the same grimaces to express both anger and appetite. Its movements are brisk, its manners gross; and, when agitated by passion, it exhibits and grinds its teeth. Notwithstanding its ferocious and unaccommodating disposition, it is, by perseverance and force of discipline, generally taught to perform a few tricks, and to shew off, in some mode or other, to the spectators.† Some of them will learn to dance, make gesticulations in cadence, and allow themselves peaceably to be clothed.

Buffon had a Barbary Ape several years. In Summer he says it delighted to be in the open air, and even in Winter it was frequently kept in a

* Travels in India.

† Penn. Quad. i. 172.

room without fire. Though long in confinement it did not become at all civilized. When food was given to it, it always filled its pouches: and when about to sleep, loved to perch on an iron or wooden bar.*

In a wild state the females carry the young in their arms, and frequently leap with them considerable distances from tree to tree.

Their flesh is eaten by the wild Arabs.

THE PIGMY APE.†

The Pigmy Ape is a native of Africa, the East Indies, and Ceylon. It is about the size of a Fox, and generally walks upright. The face is short and flat, and the ears much resembling those of Man. The general colours of the body are olive-brown above, and yellowish on the belly.

In disposition they are mild, and they may be tamed without difficulty. When angry they use threatening gestures, and always chatter when pleased. They sip their drink from the palm of the hand,‡ mimic our smiles and frowns, and, as Linnæus says, imitate the forms of salutation used by the Caffres.¶ They possess a retentive memory, frequently having a recollection of benefactors for several years. In their general manners they are sagacious, gay, and frolicsome.

In their native forests they associate in troops,

* Buff. Quad. viii. 117.

† SYNONYMS—*Simia Sylvanus*. Linn.—*Pitheque*. Buffon.—*Pigmy Ape*. Pennant.—*Shaw's Gen. Zool.* pl. 8.

‡ Kerr, i. 58. ¶ Gmelin, i. 28.

and live principally on vegetables, grain, and fruit. Like many others of this genus they often go in a body to attack gardens or plantations. Previous to their commencement of the plundering excursion, one of the party is always sent to some eminence, to observe how far it appears safe for them to venture. If the course is clear, he gives a signal, and they all come forth and immediately proceed to business. He, however, still remains on the watch: if any one approaches he utters a loud scream, when those on the ground immediately run up the trees, and if the alarm continues, and the country is pretty well wooded, they will pursue their route, by leaping from tree to tree, all the way to the mountains. In this procedure the females are frequently burthened by three or four young ones, clinging round their necks and backs, yet, notwithstanding this apparent incumbrance, they are able to leap to a vast distance. The injury they do to the fruits and corn is beyond calculation: they gather them into heaps, tear and throw them on the ground in such quantities, that what they eat and carry off, is very trifling compared with the quantity they destroy.

They are said to live chiefly in caverns, and the natives adopt a singular mode of taking them alive. They place near these, vessels containing strong liquors, and the animals assembling to enjoy the unexpected repast, become all intoxicated, fall asleep together, and are thus easily secured.*

* Buff. Quad. viii. 106.

Like most other animals, when laid hold of in a wild state, they will bite furiously in self-defence.

THE COMMON BABOON.*

The Common Baboon is found in the hottest parts of Africa, and also in the island of Borneo. It is often three or four feet in height, and in its upper parts excessively strong and muscular. When confined in a cage they sometimes lay hold of the bars, and shake them so powerfully as to make all the spectators tremble.† Towards the middle it is, like all the Baboons, very slender. Its general colour is a greyish brown; and the face, which is long, is of a tawny flesh-colour. It has check-pouches. The tail is very short, and round it, to a considerable distance, the posteriors are perfectly bare and callous.‡

The disposition of this Baboon is exceedingly ferocious; and its appearance is, at once, both grotesque and formidable. They generally go in troops, and are dangerous enemies, when collected in any number. Their attitude is seldom upright, preferring the use of four to that of two legs.

In Siam they frequently sally forth in astonishing numbers, to attack the villages, during the time the labourers are occupied in the rice harvest, which they generally have sagacity enough to ascertain,

* SYNONYMS.—*Simia Sphinx*. *Linn.*—Mottled Baboon. *Penn.*—Papion. *Buffon.*—Common Baboon. *Shaw.*—Baboon. *Bewick.*—*Shaw's Gen. Zool. pl.* 16—*Bew. Quad.* p. 418.

† *Bewick's Quadrupeds*, 418.

‡ *Shaw*, i. 16.

and plunder the habitations of whatever provisions they can lay their paws on.*

Fruits, corn, and roots, form their principal food, and in obtaining these they frequently commit the most violent outrages. Their great strength and the sharpness of their claws, render them formidable to dogs, who always overcome them with difficulty, except when excess in eating has rendered them, as it sometimes does, heavy and inactive. When at liberty one of them will easily overcome two or three men, if they happen to be unprovided with weapons of defence.†

The female seldom brings forth more than one young one, which she carries between her arms: but they have not been known to produce in any other than hot climates.

When in confinement they are ill-natured, savage, and scarcely ever to be tamed, frequently grinding their teeth, fretting and chafing with the utmost fury. One that was exhibited at Edinburgh in 1779, presented uniformly to the spectators the most threatening aspect, and attempted to seize every person who came within the reach of its chain. On these occasions he usually made a deep grunting noise, and tossed up his head almost perpetually.‡

This species is very fond of eggs, and one of them has been known to put eight into his cheek-pouches at once: then taking them out one by one, he broke them at the end, and deliberately

* Forbin, in Buff. Quad.

† Buff. Quad. viii. 122—124.

‡ Note of Mr. Smellie, Buff. Quad. viii. 126.

swallowed their contents. In confinement they may be induced to eat meat, but not without its being cooked: they are very fond of wine or spirits. One that Mr. Pennant saw at Chester was of a most tremendous strength, and excessively fierce. Its voice was a kind of roar, not unlike that of a Lion, except that it was low and somewhat inward. It went on all fours, and never stood on its hind legs, unless forced by the keeper; but would frequently sit on its rump, in a crouching manner, and drop its arms before its belly. It was an animal of great beauty, and appears to have been the same that Mr. Smellie saw at Edinburgh. Mr. Pennant says it was particularly fond of cheese, and that whenever ears of wheat were given it, it dextrously picked out the grains, one by one, with its teeth, and ate them.*

Their capricious disposition leads them to the most deliberate acts of mischief. Dr. Goldsmith says he has seen one of them break a whole service of China, evidently by design, yet without appearing in the least conscious of having done amiss.†

THE DOG-FACED BABOON.‡

The Dog-faced Baboons, which are found in the hotter parts of Africa and Asia, associate in vast companies, and rob the plantations. When any

* Penn. Quad. i. 174.

† Goldsmith, iv. 199.

‡ SYNONYMS.—*Simia Hamadayas*. Linn.—Tartarin. Kerr, who places it among the Monkeys.—Dog-faced Baboon. Pennant.—Shaw's Gen. Zool. pl. 15.—Berw. Quad. 424.

passengers go by they are so impudent as to run up the trees, and shake the boughs at them with great fury, at the same time chattering very loud. They are about five feet high, and so fierce and numerous, that the Coffee-planters are obliged to have men continually on the watch to prevent their depredations. They are untameable, and so strong, as without any difficulty, to overcome a man.*

This species is about five feet high when erect. The head and face resemble those of a dog. The hair is very long and shaggy as far as the waist, but short below. The face is naked, and the ears are pointed and hidden in the hair.

The Ursine Baboon.

The Ursine Baboon seems to be a variety of this. These animals are found in South Africa, and are very numerous at the Cape, where they live in troops in the mountains. When any person approaches, they set up an universal and horrible cry for a minute or two, and then conceal themselves in their fastnesses, and keep a profound silence. They seldom descend to the plains, except for the purpose of plundering the gardens that lie near the foot of the mountains. While they are engaged in this they are careful enough to place centinels to prevent being surprised. They break the fruit into pieces, and cram it into their cheek-pouches, in order, afterwards, to eat

* Penn. Quad. i. 180.

it at leisure, and when out of danger. The sentinel, if he sees a man, gives a loud yell, which lasts for about a minute; and the whole troop retreats with the utmost expedition, and in a most diverting manner, the young jumping on, and clinging to, the backs of their parents.* They feed also on several kinds of bulbous plants, which they dig up and peel with great address. Heaps of the parings of these may frequently be seen left behind them. The *Gladiolus plicatus* seems to be the most favorite plant with those that are found near the Cape, for which reason it is sometimes called "Baboon."†

When they discover any single person resting and regaling himself in the fields, if great care is not taken, they will cunningly steal up behind, snatch away whatever they can lay hold of, then, running to a little distance, will turn round, seat themselves on their posteriors, and with the most arch grimaces imaginable, devour it before the man's face. They frequently hold out it in their paws, as if to offer it back again, and then use such ridiculous gestures, that, although the poor fellow loses his dinner, he seldom can refrain from laughing.‡

They are indeed so numerous among the mountains, as, at times, to render it exceedingly dangerous for travellers to pass them. They sit undismayed on the tops of the rocks, and not only roll, but even throw from thence stones of immense

* Penn. Quad. i. 181. † Thunberg, i. 285. ‡ Kolben, ii. 120.

size. A gun, in these cases, is generally of indispensable use, in driving them to such a distance that the stones they throw may do no material injury. In their flight they often make, with their cubs on their backs, most astonishing leaps, up perpendicular rocks. And their agility is so great as to render them very difficult to be killed, even with fire-arms.*

Lade has very accurately described their manners. "We traversed a great mountain in the neighbourhood of the Cape of Good Hope, and amused ourselves with hunting large Apes, which are very numerous in that place.—I can neither describe all the arts practised by these animals, nor the nimbleness and impudence with which they returned, after being pursued by us. Sometimes they allowed us to approach so near, that I was almost certain of seizing them. But when I made the attempt, they sprung, at a single leap, ten paces from me, and mounted trees with equal agility, from whence they looked at us with great indifference, and seemed to derive pleasure from our astonishment. Some of them were so large, that if our interpreter had not assured us they were neither ferocious nor dangerous, our number would not have appeared to be sufficient to protect us from their attacks. As it could serve no purpose to kill them we did not use our guns. But the captain happened to aim at a very large one which sat on the top of a tree, after having

* Thunberg, i. 284.

fatigued us a long time in pursuing him: this kind of menace, however, of which the animal, perhaps, recollected his having sometimes seen the consequences, terrified him to such a degree that he fell down motionless at our feet, and we had no difficulty in seizing him. But, when he recovered from his stupor, it required all our dexterity and efforts to keep him. We tied his paws together; but he bit so furiously, that we were under the necessity of covering his head with our handkerchiefs.”*

In confinement they may be rendered docile, yet they always retain the disposition to revenge an injury. At the Cape they are often taken young, and brought up with milk; and Kolben tells us, that they will become as watchful over their master's property, as the most valuable house-dog in Europe. Many of the Hottentots believe they can speak, but that they avoid it lest they should be enslaved, and forced to work. Though not naturally carnivorous, they will eat meat or fish that is cooked.† They are generally kept fastened by means of a chain to a pole; and their agility in climbing, leaping, and dodging any one that offers to strike them is almost incredible. Though one of these animals was thus tied up, still it was impossible, at the distance of a few yards, to hit him with a stone. He would either catch it, like a ball, in his paw, or else he would avoid its blow in the most surprising and nimble manner.‡

* Voyage of Robert Lade. † Kolben, ii. 120. ‡ Thunberg, i. 285.

They are about five feet high, and are able, in spite of resistance, to drag the strongest man along with them. They usually, when enraged, lay hold by the ears, and will sometimes bite one of them off, as close as if it had been cut with a razor.*

They are sometimes caught with dogs, but it is necessary to have a tolerable number to subdue one of these animals. A single dog or two can seldom catch one of them, for if the Baboon, which is surprising agile and nimble, can but get a dog by the hind-feet, he will swing it round till it is perfectly giddy. With his immense teeth he also bites very violently, and by means of them is able to defend himself with the utmost obstinacy.†

Their features are somewhat like those of a dog, but extremely ugly. Their colour is dusky, and their hair of such a length as to give them much the appearance of a young Bear.

This seems to have been the same kind of Ape as one that M. Vaillant had along with him in his travels through the southern parts of Africa, to which he gave the name of *Kees*. It was of infinite use to him, being a more watchful servant than any of his dogs, and frequently warning him of the approach of predacious animals, when they seemed unconscious that such were near. Its numerous whimsical pranks and actions are related in both M. Vaillant's works, at considerable length.

* Penn. Quad. i. 181.

† Thunberg, ii. p. 116.

THE EGRET MONKEY.*

The Egret Monkey is somewhat of the colour of a wolf. His head, which is excessively ugly, is large, his nose depressed, cheeks wrinkled, eyebrows prominent and bristly, and his lip cleft with a double fissure. On the top of his head is a pointed tuft of hair; his feet are black, the nails of his thumbs rounded, and the others oblong. He is from a foot and a half to two feet in length; is an inhabitant of South Africa, India, and Java, where he is very sportive and lively; gamboling on the trees, and making a continual noise during the night.†

These Monkies often assemble in troops for the purpose of plundering the plantations. When they have entered a field of millet, they load themselves with it, by taking in their mouths as much as they possibly carry, and putting a quantity under their arms and in each paw. Thus laden they return to their retreats, leaping all the way on their hind feet. If they are so unfortunate as to be pursued, they do not, in their alarm, let the whole fall, in order to run off: they drop the stalks which they held in their hands, and under their arms, in order that they may run with more speed on their four feet, but still carefully retain what they carried in their mouth. They examine with the most scrupulous accuracy, every stalk they pull, and those that they find not perfectly suited to their purpose,

* SYNONYMS.—*Simia* *Aygula*. *Linn.*—*Aigrette*. *Buffon*.—Egret Monkey. *Pennant*.
 † *Shaw*. i. 48.

they throw on the ground, and tear up others instead: by this delicacy of choice often doing infinitely more damage than even by what they take away.*

They are mild and very tractable animals, but so dirty, ugly, and loathsome, that when they make their grimaces, they are scarcely to be viewed without horror and disgust.

The natives take them in snares concealed among the branches of the trees, where they are continually skipping about in the most active and ridiculous gambols.†

THE GREEN MONKEY.†

Mr. Adanson says the woods of Podor, in Africa, are filled with a species of Green Monkey. They break the branches from the trees and throw them at travellers; and their green colour renders them almost invisible. They are also perfectly silent; and so nimble in their motions as easily to evade the sight. Mr. Adanson fired among them, when some concealed themselves behind the large branches, and others sprang from one tree to another, quite away. He killed twenty-three, not one of which uttered the slightest cry, although they had before assembled along with the rest, ground

* Bosman 243.—Barbot, v. 212. This account has been applied by some naturalists only to the present species; but Bosman, who is their principal authority, makes it common to most of the Monkeys that are found on the coast of Guinea.

† Barbot.

‡ SYNONYMS.—*Simia Sabæa*. *Linn.*—*Callitriche*. *Buffon*.—Green Monkey. *Pennant*.

their teeth at him, and assumed a threatening aspect.*

The body is of a beautiful yellow green: the throat and belly silvery white, and the face black. Their size is about that of a small Cat: the tail is very long; and they run on all fours.

THE CHINESE MONKEY.†

The Chinese Monkey has its name from the unusual disposition of the hair on the top of its head, which is parted in the middle, lying smooth over each side, and spreading out in a circular direction, so as, in some measure, to resemble a Chinese cap.

These animals are found in immense troops in the woods of Ceylon, where they are very destructive to such gardens and plantations as lie within the reach of their settlements. They are about the size of a Cat, and their colour is a pale yellowish brown: their tails are long: the nails of their thumbs are round, and those of the fingers and toes sharp.‡

In their depredations on the sugar grounds, one of the number is always placed as a centinel on some adjoining tree, while the rest load themselves with the booty. When he observes an enemy, he screams out to his companions, who, carrying as many canes as they can grasp with their right arm, instantly run off on three legs. When close pur-

* Adanson, 316.

† SYNONYMS.—*Simia Sinica*. *Linn.*—*Bonnet Chinois*. *Buffon*.—*Chinese Monkey*. *Pennant*.—*Shaw's Gen. Zool*, pl. 20.

‡ Shaw, i. 50.

sued, they drop their prize, and endeavour to save themselves by scrambling up the trees, which are their usual places of abode.

When fruits and succulent plants fail, they eat insects, and sometimes descend to the margins of rivers, and the Sea-coast, to catch fish and crabs. They are said to put their tails between the pincers of the crab, and, when these are closed, to carry it quickly off, and eat it at their leisure. They gather Cocoa-nuts, and are well acquainted with the method of extracting the juice for drink, and the kernel for food.

The natives often take them by means of a Cocoa-nut with a hole in it. This is laid near their haunts, and some one of them takes it up, and with difficulty thrusts his paw into the hole in order to get at the kernel; and the people who are on the watch, immediately run up and seize the animal before he can disengage himself.*

THE STRIATED MONKEY.†

This little animal, no bigger than a Squirrel, is a native of Brasil. The tail is long and very thickly covered with fur, beautifully marked through its whole length with alternate bars of black and white. The body is of a reddish ash-colour, slightly undulated with dusky shades: the face of

* Buff. Quad. viii. 149.

† SYNONYMS.—*Simia Jacchus*. Linn.—Striated Monkey. Penn. Shaw.—*Sustiti*. Buff.—Sanglin, or Lesser Cagui. Edwards.—Sanglin. Kerr.—Shaw's Gen. Zool. pl. 25. Bew. Quad. p. 439.

a dark flesh-colour, having on each side a very large and thick tuft of milk-white hair, standing out before the ears. The paws, which are covered with hair, have sharp nails.*

In a native state, they are supposed to subsist principally on fruits, but in a state of confinement they will occasionally feed on insects, snails, &c. One that was brought to this country in an East India ship would eat nuts, but could not be prevailed on to touch ripe fruits. This creature was peculiarly fond of the smaller kind of Spiders and their eggs, but he uniformly refused the larger ones, as well as the large blue-bottle Flies, though he frequently eat the common ones.†

Mr. Edwards saw and drew one that belonged to Mrs. Kennon, formerly midwife to the Royal Family; this lady informed him that it eat many different kinds of food, as biscuits, fruit, vegetables, insects, and Snails, and that once when let loose, it snatched a Chinese Goldfish out of a bason of water, which it killed and greedily devoured. After this, by way of trial, she gave it some small live Eels, which, though they frightened him much at first, by twisting round his neck, yet he soon called forth resolution enough to master and eat them.

A pair of these animals, which belonged to a Mr. Cook, a merchant of London, who resided at Lisbon, had young at that place. These at their birth were excessively ugly, having little or no fur. They would frequently cling very fast to the breasts of the dam; and when they grew a little bigger,

* Shaw, i. 62.

† Phil. Tran. xlvii. 146.

bigger, they used to hang on her back or shoulders. When she was tired, she would rub them off against the wall, or whatever else was near, as the only mode of ridding herself of them. On being forced from the female, the male immediately took them to him, and suffered them to hang round him for a while to ease her of her burthen.*

Their voice is a kind of shrill hissing note; and most of them have a musky smell. Linnæus remarks that they are great enemies to cats.†

THE PREACHER MONKEY.‡

These animals are natives of the New Continent, being found in vast numbers in the woods of Brazil and Guiana; and are the largest of all the American Monkies. They are about the size of a Fox, of a black, glossy colour, with smooth hair. The tail is prehensile.

They are so wild and mischievous, as neither to be conquered nor tamed; they bite cruelly, and excite terror by their large mouths, and frightful voice and aspect. Their voice somewhat resembles the onise of a drum, and (it is said,) may be heard to the distance of a league. This proceeds from a kind of osseous process in the throat, in the concavity of of which the sounds are greatly augmented. Even in a dried foetus this bone was very perceptible.§

* Edwards's Glean. i. 15. pl. 218.

† Gmel. i. 39.

‡ SYNONYMS.—*Simia Beelzebul*. Linn.—Howling Baboon. Bancroft.—*Guariba*. Maregrave.—*L'Ouarine*. Buffon.—Preacher Monkey. Pennant.

§ Buffon's Quad. viii. 177—179.

They usually keep together in parties of twenty or thirty, and ramble over the tops of the woods, leaping from tree to tree. If they see a person alone they always teaze and threaten him. Dampier says, whenever he was by himself he was always afraid of shooting at them, lest they should descend from the trees in a body and do him some injury.*

We are informed by Marcgrave that they assemble every morning and evening in the woods of Brazil, and make a most dreadful howling. Sometimes one of them mounts on a higher branch, and the rest seat themselves beneath: the first begins, as it were to harangue, and sets up a howl so loud and sharp as to be heard to a great distance: after a while he gives a signal with his hand, when the whole assembly joins in chorus; but on another signal they are again silent, and the orator finishes his address. Their clamour is the most disagreeable and tremendous that can be conceived.†

When Oexmelin was in South America, he attended the hunting of these animals, and was surprized at their sagacity, not only in distinguishing particularly those who were active against them, but, when attacked, in defending themselves, and providing for their own safety. “When we approached,” he says, “they all assembled together, uttered loud and fearful cries, and threw at us dried branches which they broke off the trees. I likewise remarked, that they never abandoned each other: that they leapt from tree to tree with incre-

* Dampier's Voyage.

† Hist. Brazil, quoted in Buff. Quad.

dible agility ; and that they flung themselves headlong from branch to branch without ever falling to the ground, always catching hold either with their hands or tail. If they are not shot dead at once they can never be taken, for even when mortally wounded, they remain fixed to the trees, where they often die, and from whence they do not fall till they are corrupted. More than four days after death I have seen them firmly fixed to the trees ; and thirteen or sixteen of them are frequently shot before three or four can be obtained. What is singular, as soon as one is wounded, the rest collect about him, and put their fingers into the wound, as if they meant to sound it ; and when much blood is discharged, some of them keep the orifice shut, while others make a mash of leaves, and dexterously stop it up. This operation I have often observed with much admiration.”*

The Monkeys that Dampier describes as having seen near the Bay of Campeachy, appear evidently to have been of this species. “There was,” says he, “a great company dancing from tree to tree over my head, chattering and making a terrible noise, and a great many grim faces and antic gestures. Some of them broke down dry sticks and flung at me ; and one bigger than the rest, came to

* It seems very probable that M. Oexmelin has misconstrued some other action of these animals, for this completely surgical operation. That they have frequently been known to pull out the arrows from their own bodies, which the Indians have shot at them, we have pretty good evidence for asserting ; but this is only a simple effort, and does not require any of that extent of reasoning faculty, which is absolutely necessary in an operation like the above.

a small limb just over my head, and leaping directly at me, made me start back, but the Monkey caught hold of the bough with the tip of his tail, and there remained swinging to and fro, making mouths at me. At last I passed on, they still keeping me company, with the like menacing gestures till I came to our huts.

“They are very sullen when seized, and extremely difficult to be taken when shot, for they will cling with their tail and feet to a bough, as long as any life remains. When I have shot at one, and broken its leg or arm, I have pitied the poor creature, to see it look at and handle the broken limb, and then turn it from side to side in a manner so mournful as scarcely to be described.”*

Dampier says that they often descend to the Seashores to feed on shell-fish. He saw several Monkeys take up Oysters from the beach, lay them on a stone, and beat them with another till they demolished the shells, and then devour their contents. The same circumstance was observed by Wafer in the island of Gorgonia; “Their way was,” says he, “to lay the Oyster on a stone, and with another to beat it till the shell was broken to pieces.”†

The females are said to produce two young ones at a birth, and in their excursions they always carry one of these in their arms and the other on their back, clasping its two fore-paws round the neck, and with the hind ones laying hold of the middle of the back. There is no other method of obtain-

* Dampier's Voyage.

† Wafer, 195.

ing the young, but by killing the dam, for nothing will induce her to abandon them while living.*

Many of the voyagers describe the flesh as excellent eating, having a great resemblance in taste to mutton. Dampier even says, that he never eat any thing more delicious than this and some others of the Monkey tribes. The heads are frequently served up by the Europeans in soup, and the Negroes devour these animals as the greatest delicacies; yet there seems something extremely disgusting in the idea of eating what appears, when skinned and dressed, so like a child: the skull, the paws, and indeed every part of them remind us, who are unaccustomed to it, much too strongly of the idea of devouring a fellow creature.

THE FOUR FINGERED MONKEY.†

The Four-fingered Monkey is an inhabitant of several parts of South America. It is about eighteen inches long from the muzzle to the rump, and the tail is about two feet.

It is a bold and active animal; full of gambols and grimace; and in disposition very mild and docile. From their numbers and activity they enliven the dreary forests of America. They sometimes, from want of better food, eat fish, which Buffon tells us they catch with their tails. One that was in a cage, laid hold, in one of its frolics, of a

* Buffon.

† SYNONYMS.—*Simia paniscus*. Linn.—Quato. Bancroft.—Spider Monkey. Edwards.—Coaita. Buffon.—Mico? Stedman.—Shaw's *Gen. Zool.* pl. 28.

squirrel in this manner, that had been put to it as a companion. By the familiarity, and even the caresses of this animal, it procured the affection of all those who attended it.* When their fore-paws are tied behind their back these Monkies will walk or run on their hind feet for almost any length of time, with the same ease and familiarity as if this was their natural posture. Although they are easily tamed, and in all their actions exhibit an uncommon degree of art and dexterity, they are not always without a mixture of that mischievous sagacity for which the whole tribe is remarkable.

We are told, that when, in their own country, one of them is beaten, he will immediately climb, with the utmost agility, a lemon or an orange-tree: if he is pursued, he will pick off the fruit, and throw it with singular dexterity at the head of his adversary; and he frequently adopts other more unpleasant modes of repulsion. In these situations he assumes a thousand ridiculous attitudes, which afford considerable diversion to the spectators.

This, like most of the other monkey tribes, when on expeditions of plunder, has the sagacity to place centinels on the heights of the forest to give warning of the approach of danger.†

In their native forests, it has been said by Ulloa, that in order to pass from top to top of lofty trees, too distant for a leap, they will form a chain, by hanging down linked to each other by their tails; and in this manner swinging till the lowest catches hold of a bough of the next tree, from whence he

* Buff. Quad. viii. 184, 190.

† Bancroft, 132.

draws the rest up. We are also told that they sometimes cross rivers, where the banks are very steep, by the same expedient.*

The female brings forth one or two young, which she always carries on her back. During the fruit-season they become fat, and are then thought excellent eating.

Their colour is uniformly black, except the face, which is of a dark flesh colour. They have no thumbs on their fore-paws, but in the place of them they have very small appendices, or projections.

Capt. Stedman has mentioned his killing one of the black Monkeys of Surinam, called by the natives *Micoo*, which is either the present species, or an undescribed one nearly allied to it. The account is very interesting. Being among the woods, and in want of fresh provisions, he shot at two of these animals, with the intention of making broth of them, "but the destruction of one of them was," he says, "attended with such circumstances as almost ever afterwards deterred him from going a Monkey-hunting."—"Seeing me nearly on the bank of the river in the canoe, the creature made a halt from skipping after his companions, and being perched on a branch that hung over the

* The truth of this assertion of Ulloa is doubted by Stedman, who saw much of the manners of the South American Monkeys, but never observed among them any action like this. It is, however, confirmed by Dampier, and Acosta; but whether from their own observation, or only from the reports of the natives, it is impossible to say.

water, examined me with attention, and the strongest marks of curiosity, no doubt taking me for a giant of his own species ; while he chattered prodigiously, and kept dancing and shaking the bough on which he rested with incredible strength and agility. At this time I laid my piece to my shoulder, and brought him down from the tree into the stream ;—but, may I never again be witness to such a scene ! The miserable animal was not dead, but mortally wounded. I seized him by the tail, and, taking him in both my hands, to end his torment, swung him round, and hit his head against the side of the canoe ; but the poor creature still continued alive, and looking at me in the most affecting manner that can be conceived, I knew no other means of ending his murder, than to hold him under water till he was drowned, while my heart sickened on his account : for his dying little eyes still continued to follow me with seeming reproach, till their light gradually forsook them, and the wretched animal expired. I felt so much on this occasion, that I could neither taste of him nor his companion, when they were dressed, though I saw that they afforded to some others a delicious repast.”

Of this species, Capt. Stedman relates a circumstance very remarkable : he says, that one day he saw, from his barge, one of these monkies come down to the water's edge, rinse its mouth, and appear to clean its teeth with one of its fingers.*

* Account of an Expedition to Surinam.

THE FEARFUL MONKEY.*

The Fearful Monkey is one of the most agile, dextrous, and amusing of the whole genus. It is about as big as a small cat; the body brown, with flesh-coloured face and ears. Though a native of Surinam, its constitution seems well adapted to our temperate climate; and it will live comfortably in winter in a room without fire. It has even been known to breed in Europe, which is very unusual with the Monkey tribe.

It is exceedingly affectionate towards its offspring. In one pair that produced at Bordeaux, in the year 1764, nothing could be more beautiful than to see the two parents occupied with their little charge, which they teased incessantly, either by carrying it about, or by caressing it. The male loved it to distraction. The father and mother carried it alternately; but now and then, when it did not hold properly, they gave it a pretty severe bite. Few animals are more whimsical than these in their taste and affections, entertaining partiality to some persons, and frequently the greatest aversion to others.†

THE SQUIRREL MONKEY.‡

From the gracefulness of all its movements, the smallness of its size, brilliancy of its colours, and

* SYNONYMS.—*Simia trepida*. *Linn.*—Bush-tailed Monkey. *Edwards.*—Sajou. *Buffon.*—Fearful Monkey. *Pennant.*

† *Buffon's Quadrupeds*, viii. 194 note. *Kerr*, i. 77.

‡ SYNONYMS.—*Simia Sciurea*, *Linn.*—Orange Monkey. *Penn.*—Caitaia. *Marcgrave.*—Saimiri. *Buffon.*—Keesee-keesee. *Stedman.*—Squirrel Monkey. *Shaw.*—*Shaw's Gen. Zool.* pl. 25.

the largeness and vivacity of its eyes, this little animal has uniformly been preferred to all the other Monkeys.

It seems to be the same that Stedman describes in his account of Surinam, as called there by the natives, *Keesee-keesee*. He says, that these animals are about the size of a Rabbet, and most astonishingly nimble. The colour of their body is reddish, and their tail is black at the extremity, whilst the fore-feet are orange coloured. The head is very round, the face milk-white, with a round black patch in the middle, in which are the mouth and nostrils; and this disposition of the features gives the animal the appearance of wearing a mask: the eyes are black, and remarkably lively. These Monkeys he saw daily passing along the sides of the river, skipping from tree to tree, regularly following each other, like a little army, with their young ones at their backs, not unlike small knapsacks. Their manner of travelling is this: the foremost walks to the extremity of a bough, from which it bounds to the extremity of one belonging to the next tree, often at a most astonishing distance, and with such wonderful activity and precision, that it never once misses its aim: the others, one by one, and even the females with their little ones at their backs, which stick fast to the mother, follow their leader, and perform the same leap with the greatest apparent facility and safety: they are also remarkable for climbing up the *nebes*, or natural ropes, with which many parts of the forests are interwoven.*

This is a very tender animal, and has not yet, we believe, been brought into Europe.

* Stedman's Surinam.

THE CINGALESE MONKEY.*

This Monkey is mentioned by Professor Thunberg, in his Account of Ceylon. He describes it as being about the size of a small Cat, and having a very long, hairy, tapering, and *prehensile* tail: the body grey: the face blackish, bald, and very little shaded with hair: the beard on the chin and cheeks white, and turned backwards, the hairs standing, however, nearly erect, and almost covering the ears in front: on the chin and upper-lip, he says, it is short, but on the cheeks above an inch in length. The hands and feet are blackish and naked: the nails long and blunt, and the thumb detached and short. On the posteriors are hard and naked tuberosities. The tips of the ears are rounded, almost bare, and black.

These animals are kept tame in many of the houses of Ceylon. They are easily domesticated; and in this state generally sit upright, with their hands crossed over each other. When they observe any acquaintance, they immediately come jumping to him, fawn upon him, grin, and with a peculiar kind of cry testify their joy. They are of a very friendly and gentle nature, and never bite, unless much irritated. If, in the presence of one of these creatures, any person kisses and caresses a child, he expresses a great desire to do the same: if a child is beaten in his presence, he rears himself on his hind-legs, grins and howls in a revengeful

* Thunberg calls this animal *Simia Silenus*. It certainly cannot be that of *Linnaeus*, which has a short tail, not *prehensile*, and in other respects is different. He calls it also *Rollewai*, and *Cingalese Ape*, but it appears to agree with none described in our present books.—*Thunberg*, iv. 214.

manner, and, if let loose, will attack the chastiser. He leaps faster than he can run, on account of his hind-legs being longer than the others; and is very delicate and careful respecting his tail. Professor Thunberg attempted to bring one of them into Europe, but on coming into a cooler climate, just before they arrived at the Cape of Good Hope he died. They are all so extremely tender as not to be able to support the slightest degree of cold.

M. D'Obsonville, speaking of the sanctuaries for the Monkies in several parts of India, says, he has, when travelling, occasionally entered these ancient temples, to repose himself, when his Indian dress gave the animals little suspicion: for, notwithstanding their apparent disregard, they are, he says, very observant. He has seen several of them at first considering him, and then attentively looking at the food he was about to eat. Their eyes and agitation always painted their inquietude, their passion to gormandize, and the strong desire they had to appropriate at least a part of his repast to themselves.

In order to amuse himself on these occasions, he always took care to provide a quantity of parched pease. At first he would scatter a few on the side where the chief was, (for he says they have always a principal Monkey to head them) and the animal would approach by degrees, and collect them with avidity. He then used to present his hand full, and as they are in general accustomed to see none but

pacific people, the chief would venture, but in a sideling manner, to approach, as if eagerly watching that there was no sinister contrivance. Presently, becoming bold, he would seize the thumb of the hand in which the pease were held, with one paw, and eat with the other, keeping at the same time his eyes steadily fixed on those of M. D'Obsonville. "If," continues our entertaining writer, "I laughed or moved, he would break off his repast, and working his lips, make a kind of muttering, the sense of which, his long canine teeth occasionally shewn, plainly interpreted. When I threw a few at a distance, he seemed satisfied that others should gather them up; but he grumbled at, and sometimes struck those that came too near me. His cries and solicitude, though in part perhaps the effect of greediness, apparently indicated his fear, lest I should take advantage of their weakness to ensnare them: and I constantly observed that those which were suffered to approach me nearest, were the well-grown and strong males; the young and the females were always obliged to keep at a considerable distance."

The care and tenderness of the females, in a completely wild state, to their offspring was very conspicuous: they hold them under a proper obedience and restraint; and M. D'Obsonville has seen them suckle, caress, cleanse, and search the vermin from their young, and afterwards, crouching on their hams, delight to see them play with each other. These would wrestle, throw, or chase one another; and if any of them were malicious in their antics, the dams would spring upon them,

and seizing them with one paw by the tail, correct them severely with the other. Some would try to escape, but when out of danger, approached in a wheedling and caressing manner, though ever liable to relapse into the same faults : in other cases, each would come at the first cry of the dam. If they removed to a little distance, the young would follow gently ; but when there was any necessity for going fast, they always mounted on the backs, or rather hung embracing the bellies of the females.

Monkeys are generally peaceable enough among each other. In extensive, solitary, and fertile places, herds of different species sometimes chatter together, but without disturbance, or any confusion of the race. When, however, adventurous stragglers seem desirous of seeking their fortunes in places where another herd is in possession, these immediately unite to sustain their rights. M. de Maisonpré, and six other Europeans, were witnesses to a singular contention of this nature in the enclosures of the Pagodas of Cheringam. A large and strong Monkey had stolen in, but was soon discovered. At the first cry of alarm many of the males united, and ran to attack the stranger. He, though much their superior in size and strength, saw his danger, and flew to attain the top of a pyramid, eleven stories high, whither he was instantly followed ; but when arrived at the summit of the building, which terminated in a small round dome, he placed himself firmly, and taking advantage of his situation, seized three or four of the most hardy, and precipitated them to the bottom. These proofs

of his prowess intimidated the rest, and after much noise they thought proper to retreat. The conqueror remained till evening, and then betook himself to a place of safety.

Their conduct towards such of their brethren as become captives is very remarkable. If one is chained in their neighbourhood, especially if of the society to which he belonged, they will attempt various means, for some time, to procure his liberty: but when their efforts prove ineffectual, and they see him daily submit to slavery, they will never again, if he should by any chance escape, receive him among them, but will fall upon and beat him away without mercy.

Such is their propensity to thieving, that, not contented with the plenty that Nature affords them in the woods, they seldom fail to steal from houses or gardens whatever they are able to carry away. When any of them perceive a child with bread or fruit in its hand, they immediately run up, frighten it, and take away its food. If a woman is drying grain in the sun, which in India is very common, she will sometimes find difficulty in beating them off. Some of them skip round and pretend to steal; and the moment she runs to strike them, the others, watching the opportunity, fall too and seize the grain with all the address imaginable.

M. D'Obsonville has seen Monkeys caught, cunning as they are, by a very simple contrivance. The man employed chose a place near their haunts, and fastened a copper vessel, with a mouth about two inches in diameter, to the foot of a tree; then, after

scattering some grains, removed to a distance. These were soon devoured, and he brought more. The third time he was more bountiful of his grain, especially around and within the pot, in which were fixed five or six running knots, crossing each other in different directions. He had scarcely hidden himself before several Monkeys and their young ran to try who should get first. They had soon emptied the vessel, but their hands were caught. The man approached before they had time to liberate themselves, threw a carpet over them, and thus took two females and their young.*

THE LEMUR TRIBE.

THE animals composing the present tribe have a considerable resemblance to the Monkeys in their habits and manners, as well as in their hand-like paws: they differ from them principally in the shape of the head, which is somewhat like that of a Fox, and in the length of the hind legs. Except in the use of their paws as hands, none of these creatures have any resemblance whatever to mankind.

The principal generic characters are, four front-teeth in the upper jaw, the intermediate ones of which are remote: six long, compressed, parallel teeth in the under jaw: the canine-teeth solitary: and the grinders somewhat lobated.†

* D'Obsonville, 380.

† Gmelin, i. 41.

There are in the whole *thirteen* species; but it is only of one of these that we have hitherto been able to obtain any thing but mere description.

THE SLOW LEMUR.*

The Slow Lemur is about the size of a small Cat; its body is of an elegant pale brown, or Mouse colour; the face flattish; the nose inclined to a sharpened form; and the eyes extremely prominent: these are surrounded with a circle of dark brown, and a stripe of the same colour runs down the middle of the back.

It is very slow in its motions, and, from this circumstance, has actually been ranked by some Naturalists among the Sloths, though in no other respect resembling them. It is a nocturnal animal, and sleeps, or at least lies motionless, during the greatest part of the day. In captivity it will feed on boiled rice, small birds, or insects, and uses its paws like a squirrel. Its odour is said to be disagreeable.

The late learned and accomplished Sir William Jones has given a pleasing general description of this little creature, in the fourth volume of the Asiatic Researches; and as it is always interesting to observe the habits of an animal in its native country, though even only in a domestic state, we shall insert an extract from his curious paper.

* SYNONYMS.—Lemur Tardigradus. *Linn.*—Tailless Macauco. *Penn. Syn.*—Loris. *Buffon*: the name given to it by the Dutch.—Thevangua or Tatonneur. *D'Obsonville.*—Slow Lemur. *Shaw.*—*Shaw's Gen. Zool. pl. 29. Bew, Quad. 409.*

“In his manners he was for the most part gentle, except in the cold season, when his temper seemed wholly changed; and his Creator, who made him so sensible of cold, to which he must often have been exposed even in his native forests, gave him, probably for that reason, his thick fur, which we rarely see on animals in these tropical climates: to me, who not only constantly fed him, but bathed him twice a week in water accommodated to the seasons, and whom he clearly distinguished from others, he was at all times grateful; but when I disturbed him in winter he was usually indignant, and seemed to reproach me with the uneasiness which he felt, though no possible precautions had been omitted to keep him in a proper degree of warmth. At all times he was pleased with being stroked on the head and throat, and frequently suffered me to touch his extremely sharp teeth; but his temper was always quick, and when he was unreasonably disturbed, he expressed a little resentment, by an obscure murmur, like that of a Squirrel, or a greater degree of displeasure by a peevish cry, especially in winter, when he was often as fierce, on being much importuned, as any beast of the woods.

“From half an hour after sun-rise to half an hour before sun set, he slept without intermission, rolled up like a Hedgehog; and, as soon as he awoke, he began to prepare himself for the labours of *his* approaching day, licking and dressing himself like a Cat; an operation which the flexibility of his neck and limbs enabled him to perform very completely; he was then ready for a slight

breakfast, after which he commonly took a short nap ; but when the sun was quite set he recovered all his vivacity.

“ His ordinary food was the sweet fruit of this country ; plantains always, and mangoes during the season ; but he refused peaches, and was not fond of mulberries, or even of guaiavas : milk he lapped eagerly, but was content with plain water. In general he was not voracious, but never appeared satisfied with Grasshoppers ; and passed the whole night, while the hot season lasted, in prowling for them : when a Grasshopper, or any insect, alighted within his reach, his eyes, which he fixed on his prey, glowed with uncommon fire ; and, having drawn himself back to spring on it with greater force, he seized the prey with both his fore-paws, but held it in one of them while he devoured it. For other purposes, and sometimes even for that of holding his food, he used all his paws indifferently as hands, and frequently grasped with one of them the higher part of his ample cage, while his three others were severally engaged at the bottom of it ; but the posture of which he seemed fondest was to cling with all four of them to the upper wires, his body being inverted ; and in the evening he usually stood erect for many minutes, playing on the wires with his fingers, and rapidly moving his body from side to side, as if he had found the utility of exercise in his unnatural state of confinement.

“ A little before day-break, when my early hours gave me frequent opportunities of observing him, he seemed to solicit my attention ; and if I presented my finger to him he licked or nibbled it

with great gentleness, but eagerly took fruit when I offered it; though he seldom ate much at his morning repast: when the *day brought back his night*, his eyes lost their lustre and strength, and he composed himself for a slumber of ten or eleven hours.

“ My little friend was, on the whole, very engaging; and when he was found lifeless in the same posture in which he would naturally have slept, I consoled myself with believing that he died without much pain, and lived with as much pleasure as he could have enjoyed in a state of captivity.”

In the year 1755, M. D’Obsonville purchased one of these animals of an Indian. He was very slow in his motions, so that even when he seemed desirous of moving fast, he scarcely went above six or eight yards in a minute. His voice was a kind of whistling, by no means unpleasant. When his prey was attempted to be taken from him his countenance changed to an appearance expressive of chagrin, and he inwardly uttered a tremulous, acute, and painful note. He was melancholy, silent, and patient. He generally slept during the day with his head resting upon his hands, and his elbows between his thighs. But in the midst of this sleep, although his eyes were closed, he was exceedingly sensible to all impressions from without, and never neglected to seize whatever prey came inconsiderately within his reach. Though the glare of sun-shine was very unpleasant to him, it was never observed that the pupils of his eyes suffered any contraction.

During the first month he was kept with a cord

tied round his waist, which, without attempting to untie, he sometimes lifted up with an air of grief. M. D'Obsonville took charge of him himself, and at the beginning he was bitten four or five times for offering to disturb or take him up: but gentle chastisement soon corrected these little passions, and he afterwards gave him the liberty of his bed-chamber. Towards night the little animal would rub his eyes, then looking attentively round, would climb upon the furniture, or oftener upon ropes placed for the purpose.

Sometimes M. D'Obsonville would tie a bird in the part of the chamber opposite to him, or hold it in his hand in order to invite him to approach: he would presently come near with a long careful step, like a person walking on tip-toe, to surprise another. When within a foot of his prey he would stop, and, raising himself upright, advance gently, stretching out his paw, then, at once seizing, would strangle it with remarkable celerity.

He perished by an accident. He appeared much attached to his master, who always used to caress him after feeding: his return of affection consisted in taking the end of M. D'Obsonville's fingers, pressing them, and at the same time fixing his half-open eyes on those of his master.*

Two of these animals, which Thevenot saw in the East, were brought from Ceylon. When examined, they would stand on their hind feet. They often embraced each other, and looked sted-

* D'Obsonville, 370—373.

fastly on the numerous spectators that visited them, without seeming in the least alarmed.*

This species of Lemur is also found in many different parts of the East Indies.

THE BAT TRIBE.

THESE very singular animals would seem at first sight to possess a kind of middle station between the Quadrupeds and Birds: but it is only in their power of raising themselves into the air by means of the membranes which extend round their body, that they are in the least allied to the latter, whilst with the other they claim a place, from their structure, both externally and internally.

Bats have erect sharp-pointed teeth, placed near together. Their fore-toes are elongated, and connected by the membranes which perform the office of wings.†

Their formation cannot be contemplated without admiration, the bones of the extremities being continued into long and thin processes, connected by a most delicately formed membrane or skin, capable, from its thinness, of being contracted at pleasure into innumerable wrinkles, so as to lie in a small space when the animal is at rest, and to be stretched to a very wide extent for occasional flight.

* Relation, iii. 217.

† Linn. Gmel. i. 45.

Should a speculative philosopher, not aware of the anatomical impossibility of success, attempt, by means of light machinery, to exercise the power of flight, he could not hit on a more plausible idea than that of copying the structure described. Accordingly, a celebrated author has most justly and judiciously represented a sage theorist busied in imitating, for this purpose, “the folding continuity of the wing of a Bat.”*

Although this membrane enables the Bat, after it has once raised itself from the ground, which it does with some difficulty, to flit along the air, yet all its motions, when compared with those of birds, are clumsy and awkward; and, in walking, its feet appear so entangled with its wings, that it seems scarcely able to drag its body along.

THE LONG-EARED BAT.†

The Long-eared Bat is only an inch and three-quarters in length, while the extent of its wings is seven inches. Its ears are above an inch long, very thin, and almost transparent; and within each there is a kind of secondary auricle, or membrane, resembling an ear, so placed as to serve as a valve or guard to the auditory passage.

This is one of the most common of the British Bats, and one of those that we so often see flitting about in search of insects, in the evenings of sum-

* Shaw's Gen. Zool, i. 122.

† SYNONYMS.—*Vespertilio Auritus*. Linn.—Long-eared English Bat. Edwards.—*Oreillar*. Buffon.—Long eared Bat. Penn.—Shaw's Gen. Zool. pl. 40.—Bew. Quad. 476.

mer and autumn. They are sometimes taken by throwing up the heads of burdock, whitened with flour. The Bats, either mistaking these for prey, or casually dashing against them, are caught by the hooked prickles, and brought to the ground.*

All the European species pass the winter, from the absense of their insect prey, in a torpid state, without either food or motion, suspended in some dark place, in old ruins, caverns, or in the hollows of decayed trees. During the time they remain in this state, most of the animal functions are so far suspended, as scarcely to be perceptible. The action of the heart and arteries becomes so exceedingly languid, that the pulse can hardly be felt: if respiration be at all carried on, it is also so very slow as scarcely to be discoverable. The natural temperature, or animal heat, gets greatly below the usual standard; and digestion becomes altogether suspended. All the visible excretions are at a stand; and none of the functions seem to go on, excepting a very slow degree of nutrition, and an interchange of old for new matter in the depositary cells of the body: this last is proved by their entering into the torpid state very fat, and reviving excessively emaciated; and from this it appears that the oil, in the fatty follicles of the cellular membrane, is gradually taken up by the absorbent vessels into the languid circulation, to supply the proportionally gradual waste, occasioned by the more than half suspended action of the

* Linn. Gmel. i. 48.

emunctories.* They retire at the end of summer to their hiding places, where, generally in great numbers, they remain, suspended by the hind-legs, and enveloped in their wings.†

The Bat, like the Mouse, is capable of being tamed to a certain degree; and we are told by Mr. White, that he was once much amused with the sight of a tame Bat. “It would take Flies out of a person’s hand. If you gave it any thing to eat, it brought its wings round before the mouth, hovering and hiding its head in the manner of birds of prey when they feed. The adroitness it shewed in shearing off the wings of the Flies, (which were always rejected) was worthy of observation, and pleased me much. Insects seemed to be most acceptable, though it did not refuse raw flesh when offered; so that the notion that Bats go down chimnies, and gnaw people’s bacon, seems no improbable story. While I amused myself with this wonderful quadruped, I saw it, several times, confute the vulgar opinion that Bats, when down on a flat surface cannot get on the wing again, by rising with great ease from the floor. It ran, I observed, with more dispatch than I was aware of, but in a most ridiculous and grotesque manner.”‡

From experiments made by Spallanzani, on the Long-eared, the Horse-shoe, and the Noctule Bats, it appears that these animals possess some additional

* These observations apply to all those animals, of every description, that go into a torpid state during winter.

† Kerr. i. 94.

‡ Natural History of Selborne.

sense, which enables them, when deprived of sight, to avoid obstacles as readily as when they retained the power of vision. When their eyes were covered, or even put entirely out, they would fly about in a darkened chamber without ever hitting against the walls, and always suspend their flight with caution when they came to a place where they could perch. In the middle of a dark sewer, that turned at right angles, they would always, though at a considerable distance from the walls, regularly bend their flight with the greatest nicety. When branches of trees were suspended in a room, they always avoided them; and flew betwixt threads hung perpendicularly from the ceiling, though these were so near each other, that they had to contract their wings in passing through them.* Mr. Jurin supposes that the sense which enables them to perform these unaccountable operations is lodged in the expanded nerves on the nose;† but on that of the present, and several other species, the membrane in which these end, is wanting. Some have supposed however, that this power of avoiding obstacles in the dark is dependant principally on their ears; for when the ears of the blinded Bats were closed, they hit against the sides of the room, and did not seem at all aware of their situation.

Several of the present species were collected together for the purpose of the above experiments;

* These remarks appeared in a small work, entitled "An Account of some species of Bats which, when deprived of sight, perform their movements in the air as if they saw; a faculty not possessed by other birds, under the same circumstances."

† Journal de Physique, for 1798.

and they were preserved in a box for more than a week. They refused every species of food for several days. During the day-time they were extremely desirous of retirement and darkness, and, while confined to the box, never moved or endeavoured to get out while it was light; and, when spread on the carpet, they commonly rested for some minutes, and then beginning to look about, crawled slowly to a dark corner or crevice. At sunset the scene was quite changed; every one then endeavoured to scratch its way out of the box; a continued chirping was kept up, and no sooner was the lid of the prison opened, than each was active to escape, either flying away immediately, or running nimbly to a convenient place for taking wing. When these Bats were first collected, several of the females had young ones clinging to their breasts in the act of sucking. One of them flew with perfect ease, though two little ones were thus attached to her, which weighed nearly as much as their parent. All the young were devoid of down, and of a black colour.*

From Linnæus we learn, that the female makes no nest for her young, as most birds and quadrupeds do. She is content with the first hole she finds, where, sticking herself by her hooks against the sides of her apartment, she permits her young to hang at the nipple, and in this manner continues for the first or second day. When, after some time, the dam begins to grow hungry, and finds a necessity of stirring abroad, she takes her

* Shaw's Gen. Zool. i. 129.

little ones off and sticks them to the wall, in the manner she before hung herself, where they immovably cling, and patiently wait till her return.

THE VAMPYRE BAT.*

The Vampyre Bat is in general about a foot long, and in the extent of its wings near four feet : but it is sometimes found larger, and specimens have been seen of six feet in extent. Its general colour is a deep reddish brown. The head is shaped like that of a Fox ; the nose is sharp and black, and the tongue pointed and terminated by sharp prickles. The ears are naked, blackish, and pointed ; and the wings similar in colour to those of the Common Bat.†

These animals are found in several parts of the East Indies, and in all the Indian islands ; in New Holland, the Friendly Isles, New Caledonia, and South America.

They fly from sun-set to sun-rise, and reside during the day in hollow trees. They are not carnivorous, but live principally on fruit, and are so fond of the juice of the palm tree, that they will intoxicate themselves with it till they fall senseless on the ground. They skim the water with perfect ease in their sportive moods, and frequently dip into it to wash themselves. Mr. Forster and several other writers inform us that they swarm like Bees, hanging near one another in vast clusters : at

* SYNONYMS.—*Vespertilio vampyrus*. *Linn.*—Ternate Bat. *Penn.*—Great Bat. *Edwards.*—Roussette. *Buffon.*—Perro volador, in New Spain. *Stedman.*—*Shaw's Gen. Zool.* pl. 44.

† Shaw, i. 145.

least *five hundred* were seen by this gentleman, hanging, some by their fore, and others by their hind legs, in a large tree, in one of the Friendly Islands. Finch says, that “ they hang by the claws to the boughs of trees near Surat, in such vast clusters, as would surprise a man to see: and the noise and squealing they make is so intolerable, that ’twere a good deed to bring two or three pieces of ordnance, and scour the trees, that the country might be rid of such a plague as they are to it.”† In a small island, one of the Philippines, Dampier tells us that he saw an incredible number of Bats, so large that none of his company could reach from tip to tip of their wings, with their arms extended to the utmost. The wings were of a mouse-colour, and on the joints were sharp crooked claws. In the evening, as soon as the sun was set, he says, these animals used to take their flight in swarms, like Bees, to a neighbouring island; and they were seen to continue in immense numbers, till darkness rendered them no longer visible: the whole of the time from day-break in the morning till sun-rise they occupied in returning to their former place; and this course they constantly pursued all the time the ship remained stationed off that island.‡

At Rose Hill, near Port Jackson, in New Holland, it is supposed that more than *twenty thousand* of these animals were seen within the space of a mile.§

Some that were taken alive in New Holland,

* Forster’s Observations on Cook’s second Voyage, 189.

† Finch’s Travels into the East, in Harris’s Collection, i. 84.

‡ Dampier.

§ Hunter, 507.

would almost immediately afterwards eat boiled rice, and other food from the hand ; and in a few days became as domestic as if they had been entirely bred in the house. Governor Phillip had one, a female, which would hang by one leg a whole day without changing its position, and in that pendant situation, with its breast neatly covered by one of its wings, it would eat whatever was offered to it, lapping from the hand like a cat.*

Linnæus has given to this Bat the specific denomination of *Vampyrus*, from his conjecturing it to be the species that draws blood from people during their sleep :† but there is reason to imagine, that this thirst for blood is not confined to a single species, but is common to most of the Bat tribe. We are informed that the Bats of Java seldom fail to attack those persons who lie with their extremities uncovered, whenever they can get access to them. Persons thus attacked, have sometimes been near passing from a sound sleep into eternity. The Bat is so dextrous a bleeder as to insinuate its aculeated tongue into a vein without being perceived, and then suck the blood till it is satiated ; all the while fanning with its wings, and agitating the air, in that hot climate in so pleasing a manner, as to throw the sufferer into a still sounder sleep.

They do not, however, confine themselves to human blood, for M. Condamine, in his voyage to South America, says, that in his time they had,

* Hunter, 507.

† Linn. Gmel. i. 45.

in certain parts, destroyed all the great cattle introduced there by the missionaries.

Capt. Stedman was, while in Surinam, attacked during his sleep by one of these animals; and as his account of this incident is somewhat singular, and tends to elucidate the fact, we shall extract it in his own language from his narrative. "I cannot here (says he,) forbear relating a singular circumstance respecting myself, *viz.* that on waking about four o'clock one morning in my hammock, I was extremely alarmed at finding myself weltering in congealed blood, and without feeling any pain whatever. Having started up, and rung for the surgeon, with a fire-brand in one hand, and all over besmeared with gore; to which, if added, my pale face, short hair, and tattered apparel, he might well ask the question,

' Be thou a spirit of health, or goblin damn'd,

' Bring with thee airs of heav'n, or blasts from hell!'

The mystery, however, was, that I had been bitten by the *Vampire*, or *Spectre* of Guiana, which is also called the *Flying-dog* of New Spain, and by the Spaniards *Perro-volador*; this is no other than a Bat, of a monstrous size, that sucks the blood from men and cattle while they are fast asleep, even sometimes till they die; and as the manner in which they proceed is truly wonderful, I shall endeavour to give a distinct account of it.—Knowing, by instinct, that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning

with his enormous wings, which keeps one cool, he bites a piece out of the tip of the great toe, so very small indeed, that the head of a pin could scarcely be received into the wound, which is consequently not painful ; yet through this orifice he continues to suck the blood, until he is obliged to disgorge. He then begins again, and thus continues sucking and disgorging till he is scarcely able to fly, and the sufferer has often been known to sleep from time into eternity. Cattle they generally bite in the ear, but always in places where the blood flows spontaneously. Having applied tobacco ashes as the best remedy, and washed the gore from myself and my hammock, I observed several small heaps of congealed blood all round the place where I had lain, upon the ground ; on examining which, the surgeon judged that I had lost at least twelve or fourteen ounces during the night.”*

The smell of these creatures is stronger and more rank than that of a Fox ;† yet the Indians eat them, and declare their flesh to be excellent food. They become excessively fat at certain times of the year, and it is then that they are said to be the most delicious. The French, who reside in the isle of Bourbon, boil them in their bouillon, *to give it a relish !*

In New Caledonia the natives use their hair in the making of ropes, and in the tassels of their clubs ; interweaving it with the threads of *Cyperus squarrosus*.‡

* Narrative of an Expedition to Surinam.
Quad. ii. 550.

† Hunter.

‡ Penn.

 THE SLOTH TRIBE.*

IN this tribe there have been hitherto only *three* species discovered, two of which are principally found in South America. Their motions are unparalleled in the rest of the animal creation, for slowness and inactivity. The feet are furnished with strong hooked claws to enable them to climb the trees, where they devour both the leaves and fruit.† Their teats are seated on the breast; and in two of the species it is a remarkable circumstance, that instead of distinct excretory apertures, there is only one common canal, as in Birds.‡

The Sloths have no cutting-teeth in either jaw: the canine-teeth are obtuse; and the grinders five on each side. Their fore-legs are much longer than the hind ones, and the body is covered with hair.

THE THREE-TOED SLOTH.§

Of the Three-toed Sloth, which is a native of the hotter parts of South America, we have a most

* The Linnæan Order, BRUTA, commences with the Sloths.

† Elements of Natural History, i. 79. ‡ Kerr, i. 102.

§ SYNONYMS.—*Bradypus Tridactylus*.—Linn.—Sloth. Edwards.—Luyart. Nieuhof.—Haut. Nieremb.—Ai. Buffon. Three-toed Sloth.—Penn.—Shaw's Gen. Zool. pl. 45.—Bew, Quad. 457.

curious, though often-quoted, account, written by Kircher, principally from the Provincial of the Jesuits, an intimate friend, in America, who had several of these animals in his possession, and tried many experiments with them relative to their nature and properties. “Its figure is, (he says) extraordinary: it is about the size of a Cat, has a very ugly countenance, and claws extended like fingers. It sweeps the ground with its belly, and moves so slowly that it would scarcely go the length of a bow-shot in fifteen days, though constantly in motion:” hence it obtained the name of Sloth. It lives generally on the tops of trees, and employs two days in crawling up, and as many in getting down again. Nature has doubly guarded it against its enemies, first, by giving it such strength in its feet, that whatever it seizes, it holds so fast, that it can never be freed, but must there die of hunger. Secondly, in having giving it such an affecting countenance, that when it looks at any one who might be tempted to injure it, it is almost impossible not to be moved with compassion; it also sheds tears, and upon the whole persuades one that a creature so defenceless and so abject ought not to be tormented.

“To try an experiment with this animal, the Provincial had one of them brought to the Jesuit’s College at Carthagena. He put a long pole under

* This seems to be an erroneous assertion, for although in their progressive powers they are extremely inactive, yet all other writers that we have consulted agree in their being able to travel at least fifty or sixty paces in a day.

its feet, which it seized very firmly, and would not let go again. The animal, therefore, thus voluntarily suspended, was placed between two beams, where it remained without food for forty days, its eyes being always fixed on those who looked at it, who were so affected that they could not forbear pitying its dejected state. At length, being taken down, a dog was let loose on it, this, after a while the Sloth seized in its claws, and held till he died of hunger.”*

Linnæus says of it, “that its cry is horrible, and its tears piteous.”†

In ascending the trees this animal carelessly stretches one of its fore-paws, and fixes its long claw as high as it can reach. It then heavily raises the body, and gradually fixes the other paw: and in this manner continues to climb, every motion being incredibly slow and languid. When the Sloth once gets into a tree, it is said never to descend while a leaf or bud is remaining; and it is added, that in order to save the slow and laborious descent which it would otherwise be obliged to make, it suffers itself to fall to the ground; its tough skin, and thick coarse hair sufficiently securing it from any unpleasant effect in its fall. Sometimes they will suspend themselves by their claws from the branches of trees, and in this situation a branch may be cut off, and they will fall rather than quit their hold.‡ One that was taken

* Musurgia, Tom. I. lib. ii. c. 6. † Linn. Gmel. i. 51. ‡ Buff. Quad. vii. 164.

by some person of the expedition under Woodes Rogers, was brought on board one of the vessels, and put down at the lower part of the mizen shrouds. He climbed to the mast-head; occupying two hours, in what a Monkey would have performed in less than half a minute. He proceeded with a very slow and equal pace, as if all his movements had been directed by machinery.*

They are always most active during the night, at which time they utter their plaintive cry, ascending and descending in perfect tune, through the hexachord, or six successive musical intervals. When the Spaniards first arrived in America, and heard this unusual noise, they fancied they were near some nation, the people of which had been instructed in our music.†

When kept in a house the Sloth never rests on the ground, but always climbs on some post or door for repose. If a pole is held out to it, when on the ground, it will immediately lay hold, and, if it is fixed, climb to the top, and firmly adhere to it.‡

In its general appearance it is extremely uncouth; the body is thick; the fore-legs short; the hinder ones far longer; the feet very small, but armed with three most excessively strong and large claws, of a curved form and sharp-pointed. The head is small; the face short, naked, and of a blackish colour; the eyes are small, black, and round: the ears are also small, and lie close to the head. The hair on

* Woodes Rogers, 245. † Kircher's Musurgia. ‡ Buffon, vii. 164.

the top of the head projects over, and gives to the animal a very peculiar and grotesque physiognomy. Its general colour is a greyish brown, and the hair is moderately long, and extremely coarse, covering the body, and especially about the back and thighs, very thickly.*

The female produces one young one, which she frequently carries on her back.†

THE ANT-EATER TRIBE.

THE Ant-eaters, living entirely on insects, are totally devoid of teeth; their tongue, which is long, wormlike, and covered over with a kind of glutinous moisture, being the only instrument by which they take their food. Instead of teeth they have, however, certain bones, not unlike teeth, that are situated deep in the mouth, near the entrance of the gullet. The mouths of the whole tribe are lengthened into a somewhat tubular form. The body is covered with hair.‡

THE GREAT ANT-EATER.§

The body of the Great Ant-eater is covered over with very long shaggy hair: its head is very long

* Shaw, i. 150.

† Buffon.

‡ Linn. Gmel. i. 52.

§ SYNONYMS.—*Myrmecophaga Jubata*. Linn.—*Tamandua-guacu*. *Marcgrave*.—*Tamanoir*. *Buffon*.—*Great Ant-eater*. *Penn.*—*Shaw's Gen. Zool.* pl. 49.—*Bew. Quad.* 459.

and slender, and the mouth is but just large enough to admit its tongue, which is cylindrical, and frequently two feet in length, and which lies folded double within. The tail is of an enormous size, covered with long black hair, somewhat like that of a horse: with this extraordinary member, when asleep (which is generally in the day-time,) or during a hard shower of rain, the animal covers itself in the manner of a Squirrel; at other times he trails it along, and sweeps the ground.*

This animal is a very bad walker, always resting on the heel of its awkward long feet, but it is able to climb with great ease. Though destitute of teeth, and generally inclined to shun contention, when it is attacked, and its passions become roused, it is a fierce and dangerous adversary. If it can once get its enemy within the grasp of its fore-paws, it fixes the claws into their sides, and both fall together; and, as it frequently happens, both perish, for such is the obstinate perseverance of the Ant-eater, that it will not extricate itself even from a dead adversary. Such is its strength, that even the Panthers of America are often unequal to it in combat.†

His food consists of Ants, which he takes in the following manner:—when he comes to an Ant-hill, he scratches it up with his long claws, and then unfolds his slender tongue, which is about twenty inches long, and most exactly resembling a worm; this, being covered over with a clammy matter or saliva, the Ants get upon it in great numbers, and

* Stedman.

† Penn. Quad. ii. 508. Gumilla Orenoque, iii. 132.

by drawing it into his mouth, he swallows thousands of them alive, and renews the operation till no more are to be found. He also climbs trees in quest of Wood-lice and wild-honey ; but should he meet with little success in his devastations, he is able to fast for a considerable time without the smallest inconvenience. His motions are in general very slow. He swims over great rivers with sufficient ease ; at which time his tail is thrown over his back.

It is said that this species is tameable, and that in a domestic state it will pick up crumbs of bread and small pieces of flesh. It is a native of Brazil and Guiana, and sometimes measures eight or nine feet from the end of the snout to the tip of the tail.* The female brings forth one young at a time, which does not arrive at maturity till it is four years old.

The flesh has a strong and disagreeable flavour, but is frequently eaten by the American Indians.†

THE ARMADILLO TRIBE.‡

IN this genus the animals are destitute both of cutting, and canine teeth ; but they have several grinders. They are covered over with a strong crust or shell, which distinguishes them from all other

* Stedman.
of some writers,

† Pennant.

‡ The Iron-pigs, and Shield-hogs

quadrupeds; and they are distinguished from each other by the number of flexible bands of which this is composed.*

They are harmless animals, and live in burrows in the ground. They feed on roots, fruits, and other vegetables, and occasionally on worms or insects, and are all of them natives of South America.

THE THREE-BANDED ARMADILLO.†

The three-banded Armadillo is found in Brasil, and is about twelve inches long, and eight broad, with a tail not more than two inches. The body is almost entirely covered with a shell: the shields on the shoulders and rump consist of five cornered pieces, very regularly arranged, the girdles round the body are composed of square or oblong pieces, having a number of scales, of a yellowish white colour, on each.‡ All the pieces of this armour are connected by a membrane, like the articulations in the tail of a Lobster, and slide so easily over each other as to afford free motion.§

When the Armadillo is in danger, it rolls up like a Hedge-hog, withdrawing its head under the shell, and leaving nothing but shell in view, except the nose: the feet are drawn up under the belly, and the two extremities are united, while the tail

* Kerr, i. 108.—Linn. Gmel. i. 54.

† SYNONYMS.—*Dasypus Tricinctus*. Linn.—Tatou or Armadillo. *Red. exper.*—Tatu apara. *Marcgrave.*—Tatu. *Seba.*—Apara. *Kerr.*—*Shaw's Gen. Zool.* pl. 57.

‡ Kerr, i. 109.

§ Church,

forms a connecting band which gives great strength to its situation. In this position it somewhat resembles a large ball, flattened on the sides, and thus defended, it continues till the danger is passed ; and frequently for a long time after. If it is near a precipice it will sometimes roll itself over, and it is said generally to fall to the bottom unhurt. When the Indians find it folded up, they lay it close to the fire, if such is at hand, the heat of which soon obliges the poor creature to unroll itself and submit to other torture.

These animals root up the earth like the Hog, in search of roots. They live in burrows which they dig in the ground, and which they seldom quit but during the night.*

The Indians hunt the Armadillo with small Dogs trained for the purpose. When the animal is surprised, it generally runs to its hole, or, if that is not near, attempts to make a new one, which it does with great expedition, having strong claws on its fore-feet, with which it adheres so firmly to the ground, that if it should be caught by the tail while making its way into the earth, its resistance is so great, that it will sometimes leave it in the hands of its pursuers. To avoid this, the hunter has recourse to artifice ; and, by tickling it with a stick it gives up its hold, and suffers itself to be taken alive.†

They breed three or four times in the year, and

* *C. b.*

† Penn. Quad. ii. 498. Bewick's Quadrupeds.

Adding observations apply to nearly all the species.

bring forth several young at a birth. When fat, they are considered as excellent food.

THE RHINOCEROS TRIBE.*

WE now come so a race of animals of a huge size and bulk, inhabitants only of the tropical climates, dull and sluggish in their manners, and in their disposition sufficiently peaceable, except when attacked or provoked. They have, seated on the nose, a solid, conical horn, not fixed in the bone, which is never shed, but remains, unless broken off by accident, during life.†

THE SINGLE-HORNED RHINOCEROS.‡

The Single-horned Rhinoceros is not exceeded in size by any land animal except the Elephant, and in strength and power it gives place to none. Its length is usually about twelve feet, and this is also nearly the girth of its body.

Its nose is armed with a formidable weapon, a hard and very solid horn, sometimes above three feet in length, and eighteen inches in circumference at the base, with which it is able to defend

* This name is derived from *ρῖς* *ρῖνος* nose, and *κερας* a horn.

† Linn. Gmel. i. 59.

‡ SYNONYMS.—*Rhinoceros Unicornis*. Linn.—*Rhinoc*
Parsons, &c.—*Shaw's Gen. Zool.* pl. 60.—*Bew. Quad*

itself against the attacks of every ferocious animal. The Tiger will rather attack the Elephant than the Rhinoceros, which it cannot face without danger of having its bowels torn out. "With this horn," says Martial, "it will lift up a Bull like a football."*

The body and limbs of the Rhinoceros are defended by a skin so hard as to be impenetrable by any weapons, except in the belly: it is said, that in order to shoot a full-grown Rhinoceros of an advanced age, it is necessary to make use of iron bullets, those of lead having been known to flatten against the skin.

The upper lip seems in this animal to answer in some measure the same purpose as the trunk of the Elephant; it protrudes over the lower one in the form of a lengthened tip; and, being extremely pliable, is used in catching hold of the shoots of vegetables, &c. and delivering them into its mouth.

The Rhinoceros is generally of a quiet and inoffensive disposition, but when attacked or provoked it becomes very furious and dangerous; and he is even sometimes subject to paroxysms of fury, which nothing can assuage. That which Emanuel, King of Portugal, sent to the Pope, in the year 1513, destroyed the vessel in which they were transporting it.

Dr. Parsons, in the year 1743, published a history of the Rhinoceros, containing a very minute

description of one that was brought from Bengal into Europe.* He was only two years old, and the expence of his food and journey amounted to near 1000l. sterling: he had every day, at three meals, seven pounds of rice, mixed with three pounds of sugar; besides hay and green plants: he also drank large quantities of water. In his disposition he was very peaceable, readily suffering all parts of his body to be touched. When he was hungry, or was struck by any person, he became mischievous, and nothing would appease him but food. He was not at this time taller than a young Cow.

A Rhinoceros, brought from Atcham, in the dominions of the King of Ava, was exhibited in 1748, at Paris. It was very tame, gentle, and even caressing, was fed principally on hay and corn, and was much delighted with sharp or prickly plants, and the thorny branches of trees. The attendants frequently gave him branches that had very sharp and strong thorns on them; but he bent and broke them in his mouth without seeming in the least incommoded. It is true they sometimes drew blood from the mouth and tongue, "but that," says Father Le Comte, who gives us the description, "might even render them more palatable, and those little wounds might serve only to cause a sensation similar to that excited by salt, pepper, or mustard, on ours."†

As an equivalent for a very dull sight, Dr. Parsons remarks, that this animal possesses an acute

* The first that was brought into England was in the year 1684.

† Church.

and most attentive ear. It will listen with a deep and long-continued attention to any kind of noise; and although it be eating, lying down, or obeying any pressing demands of nature, it will raise its head, and listen till the noise ceases.

The Rhinoceros is said to run with great swiftness, and from his strength and impenetrable covering, is capable of rushing with resistless violence through woods and obstacles of every kind; the smaller trees bending like twigs as he passes them. In his general habits and manner of feeding he resembles the Elephant; residing in cool sequestered spots, near waters, and in shady woods: like the hog he delights in occasionally wallowing in the mire.*

The Asiatics sometimes tame and bring them into the field of battle, to strike terror into their enemies, but they are in general so unmanageable that they do more harm than good, and in their fury it is not uncommon for them to turn on their masters.†

The skin, which is of a blackish colour, is disposed about the neck into large plaits or folds: another fold of the same kind passes from the shoulders to the fore legs; and another from the hind part of the back to the thighs. It is naked, rough, and covered with a kind of tubercles, or large callous granulations. Between the folds and under the belly the skin is soft, and of a light rose-colour. The ears are moderately large, upright,

* Shaw, i. 200.

† Church.

and pointed: the eyes are small, and so placed that he can only see what is nearly in a direct line before him.*

The flesh is eaten: the skin, flesh, hoofs, teeth, and even the dung, are also used in India medically. The horn, when cut through the middle, is said to exhibit on each side, the rude figure of a man, whose outlines are marked by little white strokes.† Many of the Indian princes drink out of cups made of this horn, because they imagine that when it holds any poisonous draught, the liquor will ferment till it runs quite out of the goblet. Those made of the horns of the young are esteemed the best. Professor Thunberg, when at the Cape, tried these horns, both wrought into goblets and unwrought, both old and young horns, with several sorts of poison, weak as well as strong, but observed not the least motion or effervescence; but when a solution of corrosive sublimate was poured into one of them, there arose indeed a few bubbles, which were produced by the air that had been inclosed in the pores of the horn, and was now disengaged from it.‡ Martial informs us that the Roman ladies of fashion used these horns in the baths to hold their essence-bottles and oils.§ The Javanese make shields of the skin.

The female produces but one young.

The Single-horned Rhinoceros is a native of several parts of India, as well as of the islands of

* Shaw, i. 199.

† Grose, i. 273.

‡ Thunberg, i. 246.

§ Lib. xiv. Ep. 53.

Ceylon, Java, and Sumatra. It is also found in Ethiopia.

THE TWO-HORNED RHINOCEROS.*

This species differs from the last principally in the appearance of its skin, which, instead of vast, and regularly marked armour-like folds, has merely a very slight wrinkle across the shoulders, and on the hinder parts, with a few fainter wrinkles on the sides, so that, in comparison with the common Rhinoceros, it appears almost smooth. What, however, constitutes the specific or principal distinction is the nose being furnished with two horns, one of which is smaller than the other, and situated above it. These horns are said to be loose when the animal is in a quiet state, but to become firm and immoveable when enraged.†

In its habits and manner of feeding this animal differs but little from the Single-horned Rhinoceros. Vaillant says that when these animals are at rest, they always place themselves in the direction of the wind, with their noses towards it, in order that they may discover by their smell what enemies they have to dread. From time to time, however, they move their heads round to take a look behind them, and to be assured that they are safe on all sides; but it is only a look, and they soon return to their former position.‡ When they are enraged they tear up the ground with their horn, and throw the earth

* SYNONYMS.—Rhinoceros Bicornis. Linn.—Shaw's Gen. Zool. pl. 61.—Brew. Quad. 156.

† Shaw, i. 202.

‡ New Travels in Africa, iii. 42.

and stones furiously, and to a vast distance, over their heads.

Mr. Bruce's description of the manners of the Two-horned Rhinoceros, is highly worthy of notice. He informs us, that, "besides the trees capable of most resistance, there are, in the vast forests within the rains, trees of a softer consistence, and of a very succulent quality, which seem to be destined for his principal food. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out so as to increase his power of laying hold with it, in the same manner as the Elephant does with his trunk. With this lip, and the assistance of his tongue, he pulls down the upper branches, which have most leaves, and these he devours first; having stripped the tree of its branches, he does not therefore abandon it, but, placing his snout as low in the trunk as he finds his horns will enter, he rips up the body of the tree, and reduces it to thin pieces like so many laths; and, when he has thus prepared it, he embraces as much of it as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any such pot-herb or garden-stuff.

"When pursued, and in fear, he possesses an astonishing degree of swiftness, considering his size, the apparent unwieldiness of his body, his great weight before, and the shortness of his legs. He is long, and has a kind of trot, which, after a few minutes increases in a great proportion, and takes in a great distance; but this is to be under-

stood with a degree of moderation. It is not true that in a plain he beats the Horse in swiftness. I have passed him with ease, and seen many, worse mounted, do the same; and though it is certainly true that a horse can very seldom come up with him, this is owing to his cunning, and not to his swiftness. He makes constantly from wood to wood, and forces himself into the thickest parts of them. The trees that are dead or dry, are broken down, as with a cannon shot, and fall behind him and on his side in all directions. Others, that are more pliable, greener, or fuller of sap, are bent back by his weight and the velocity of his motions. And, after he has passed, restoring themselves like a green branch to their natural position, they often sweep the incautious pursuer and his horse from the ground, and dash them in pieces against the surrounding trees.

“The eyes of the Rhinoceros are very small; he seldom turns his head, and therefore sees nothing but what is before him.* To this he owes his death, and never escapes if there is so much plain as to enable the Horse to get before him. His pride and fury then make him lay aside all thoughts of escaping, but by victory over his enemy. He stands for a moment at bay; then, at a start, runs straight forward at the Horse, like the Wild Boar, which, in his manner of action, he very much resembles. The Horse easily avoids him by turning

* The account of Mr. Bruce differs in this particular from that of M. Vaillant, before quoted, and it is impossible for us to say which of the two is nearest the truth.

short to one side ; and this is the fatal instant ; the naked man, with the sword, drops from behind the principal horseman, and, unseen by the Rhinoceros, who is seeking his enemy, the Horse, he gives him a stroke across the tendon of the heel, which renders him incapable of further flight or resistance.

“ In speaking of the great quantity of food necessary to support this enormous mass, we must likewise consider the vast quantity of water which he needs. No country but that of Shangalla, which he possesses, deluged with six months rain, and full of large and deep basons, made in the living rock, and shaded by dark woods from evaporation, or watered by large and deep rivers which never fall low, or to a state of dryness, can supply the vast draughts of this monstrous creature : but it is not for drinking alone that he frequents wet and marshy places ; large, fierce, and strong as he is, he must submit to prepare himself against the weakest of all adversaries. The great consumption he constantly makes of food and water necessarily confine him to certain limited spaces : for it is not every place that can maintain him ; he cannot emigrate or seek his defence among the sands of Atbara.”*

This adversary is a Fly (probably of the genus *œstrus*) which is bred in the black earth of the marshes : it persecutes him so unremittingly, that it would in a short time subdue him, but for a stratagem which he practises for his preservation. In the night when the Fly is at rest, the Rhinoceros

* Travels to the source of the Nile.

chuses a convenient place, and there rolling in the mud, clothes himself with a kind of case, which defends him against his adversary the following day. The wrinkles and plaits of his skin serve to keep this muddy plaster firm upon him, all but about his hips, shoulders, and legs, where it cracks and falls off by motion, and leaves him exposed in those places to the attacks of the Fly. The itching and pain which follow, occasion him to rub himself in those parts against the roughest trees, and this is one cause of the numerous pustules or tubercles which we see upon him.

He enjoys the rubbing of himself so much, and groans and grunts so loud during this action, that he is heard at a considerable distance. The pleasure he receives from this enjoyment, and the darkness of the night, deprive him of his usual vigilance and attention. The hunters, guided by his noise, steal secretly upon him, and, while lying on the ground, wound him with their javelins mostly in the belly, where the wound is mortal.

It is by no means true that the skin of this Rhinoceros, as it has been often represented, is hard or impenetrable like a board. In his wild state he is slain by javelins thrown from different hands, some of which enter many feet into his body. A musket shot will go through him, if it meet not with the intervention of a bone; and the Shangalla, an Abyssinian tribe, kill him by the worst and most inartificial arrows that ever were used by any people practising that weapon, and cut him to pieces afterwards with the very worst of knives.

In order to shew the amazing strength of the Rhinoceros, even after being very severely wounded, we shall quote Mr. Bruce's account of the hunting of this animal in Abyssinia: "We were on horse-back (says this gentleman,) by the dawn of day in search of the Rhinoceros, many of which we had heard making a very deep groan and cry as the morning approached; several of the Agageers (hunters) then joined us, and after we had searched about an hour in the very thickest part of the wood, one of them rushed out with great violence, crossing the plain towards a wood of canes that was about two miles distant. But though he ran, or rather trotted with surprising speed, considering his bulk, he was, in a very little time transfixed with thirty or forty javelins; which so confounded him, that he left his purpose of going to the wood, and ran into a deep hole, ditch, or ravine, a *cul de sac*, without outlet, breaking above a dozen of the javelins as he entered. Here we thought he was caught as in a trap, for he had scarce room to turn; when a servant, who had a gun, standing directly over him, fired at his head, and the animal fell immediately, to all appearance dead. All those on foot now jumped in with their knives to cut him up, and they had scarce begun, when the animal recovered so far as to rise upon his knees; happy then was the man that escaped first; and had not one of the Agageers, who was himself engaged in the ravine, cut the sinew of the hind-leg, as he was retreating; there would have been a very sorrowful account of the foot-hunters that day.

“ After having dispatched him, I was curious to see what wound the shot had given, which had operated so violently upon so huge an animal; and I doubted not it was in the brain. But it had struck him no where but upon the point of the foremost horn, of which it had carried off above an inch; and this occasioned a concussion that had stunned him for a minute, till the bleeding had recovered him.”

It has been often asserted that the tongue of the Rhinoceros is so hard and rough, as to take away the skin and flesh wherever it licks any person that has unfortunately fallen a victim to its fury.* Dr. Sparrman says, however, that he thrust his hand into the mouth of one that had just been shot, and found the tongue perfectly soft and smooth.

The cavity which contained the brain of one of these huge animals, was only six inches long and four deep; and, being filled with pease, was found to hold barely a quart; while a human skull, measured at the same time, took above two quarts to fill it.

The Hottentots, and even some of the inhabitants of the Cape, set a high value on the dried blood of the Rhinoceros, to which they ascribe great virtues in the cure of many disorders of the body. The flesh is eatable, but it is very sinewy.

* Kolben, ii. 103.

ELEPHANT.

ELEPHANTS have no front-teeth in either jaw; and from the upper-jaw proceed two long and stout tusks, which, in a state of nature, are used in tearing up trees for food, and as weapons of defence against their enemies. They have a very long, cartilaginous, prehensile trunk, which is capable of laying hold even of very minute objects; and their body is nearly naked.

No more than *one* species has hitherto been discovered.

THE ELEPHANT.*

There is scarcely any animal in the Creation that has at different times taken up so much the attention of mankind as the Elephant. Formed in a very particular manner for the service of man in the hot climates, it possesses every requisite to usefulness. It is strong, active, and laborious; replete with mildness and sagacity. Docile in a very eminent degree, it may be trained to almost any service that a brute is capable of performing.

Elephants are found wild in the shady woods of Asia and Africa, where they generally live in large troops. They feed on vegetables, the young shoots of trees, grains, and fruit of various kinds. Their incursions are much dreaded in plantations, where they frequently commit the most violent depredations; at the same time also materially in-

* SYNONYMS.—*Elephas maximus.* Linn.—Elephant. *Smellie.*—*Elephantus.* Buffon.—*Shaw's Gen. Zool. pl.* 63, 64—*Bew. Quad.* p. 166.

juring the crops, by trampling the ground with their vast feet.

The skin of the Elephant is generally of a deep ash-coloured brown, approaching to black. The tusks are not visible in young animals, but in the more advanced state of growth they are eminently conspicuous; and in the full-grown animal they advance sometimes so much as ten feet from their sockets.* It is but rarely that they are seen in the females; and when they appear they are but small, and their direction is somewhat downwards.

This is undoubtedly the largest of all terrestrial animals, arriving sometimes at the height of twelve feet; though the more general height seems to be from nine to ten. It is said to live to the age of a hundred, or a hundred and twenty years.

The female seldom produces more than one young one at a birth. This, when first born, is about three feet high, and continues growing till it is sixteen or eighteen years old. The teats of the female are two, seated at a small distance behind the fore-legs.

The eyes are extremely small; the ears very large and pendulous. The form indeed of the whole animal appears very awkward: the head is large; the body thick; the back much arched; the legs extremely thick, and very short; and the feet slightly divided into, or rather edged with, five rounded hoofs; the tail is terminated by a few scattered, very thick, and black hairs.

* The largest tusks imported into England measure seven feet in length, and weigh about 150lb. each.

In the structure of the Elephant, the most singular organ is the trunk or proboscis. This is an extension of the canals of the nose: it is very long, composed of a great number of cartilaginous rings, and is through its whole length divided by a continuation of the septum. At the lower end it is furnished with a kind of moveable finger, that seems to divide the opening into two parts. It is so strong as to be capable of breaking off large branches from trees. Through this the animal smells and breaths; and it is possessed of such exquisite sensibility that he can pick up with it almost the smallest bodies from the ground. By means of this the Elephant conveys the food to its mouth, which is situated so much in the under part of its head as to seem almost a part of the breast. The sense of smelling he enjoys in the highest perfection; and when a number of people are standing around him he will discover food in the pocket of any one, and take it out with his trunk with great dexterity.* With this he can untie the knots of ropes, open and shut gates, by turning the keys, or pushing back the bolts; it is in short one of the completest instruments that nature has bestowed even on her most favorite productions.†

The skin of this animal, where it is not callous,

* Church.

† Elephants are said to be exceedingly afraid of Mice, lest they should get through the trunk into their lungs, and thus stifle them: and, therefore, sleep with the end of the proboscis so close to the ground, that nothing but air can get in between.—*Ray's Wisdom of God in the Works of the Creation*, p. 384.

is extremely sensible. In the fissures and other places where it is moist and soft, he feels the stinging of flies in such a lively manner, that he not only employs his natural movements, but even the resources of his intelligence to rid himself of them. He strikes them with his tail, his ears, and his trunk. He contracts his skin, and crushes them between its wrinkles. He drives them off with branches of trees, or bundles of long straw. When all these artifices are unsuccessful, he collects dust with his trunk, and covers all the sensible parts of his skin with it. He has been observed dusting himself in this manner several times in a day; and always at the most proper season, namely, after bathing.*

The Elephants' dispositions are gentle, and their manners social, for they are seldom seen wandering alone. They generally march in troops, the oldest keeping foremost, and the next in age bringing up the rear. The young and the feeble are placed in the middle. The mothers carry their young firmly embraced in their trunks. They, however, do not observe this order, except in perilous marches, when they want to pasture on cultivated fields. In the deserts and forests, they travel with less precaution, but without separating so far as to exceed the possibility of receiving assistance from one another.

The wild Elephants of Ceylon live in troops or families, distinct and separate from all others,

* Buff. Quad.

and seem to avoid the strange herds with particular care. When a family removes from place to place, the largest-tusked males put themselves at the head; and if they come to a river are the first to pass it. On arriving at the opposite bank, they try whether the landing-place is safe; if it is, they give a signal with their trunk, on which another part of the old Elephants swim over, the little Elephants then follow, holding one another by locking their trunks together, and the rest of the old ones bring up the rear.*

As the modes of taking these animals, and rendering them submissive to human authority, merit particular attention, we shall, in as cursory a manner as possible, describe those pursued by a few of the different countries of the East.

At Tepura, in the East Indies, the mode pursued in securing a single male, is very different from that employed in taking a herd. The former, which we shall first mention, is taken by means of Koomkees, or female Elephants, trained for the purpose, whereas the latter are driven into a strong inclosure.

As the hunters know the places where the Elephants come out to feed, they advance towards them in the evening with four Koomkees, the number of which each hunting party consists: when the nights are dark, the male Elephants are discovered by the noise they make in cleaning their food, which they do by whisking and striking it against their fore-legs; and in the moon-light

* Penn. Quad. i. 153.

nights they are to be seen distinctly at some distance.

As soon as they have determined on the animal they mean to secure, three of the Koomkees are conducted silently and slowly, at a little distance from each other, near to the place where he is feeding. The Koomkees advance very cautiously, feeding as they go along, and appear like wild Elephants that have strayed from the forest. When the male perceives them approaching, if he takes the alarm, and is viciously inclined, he beats the ground with his trunk, and makes a noise, shewing evident marks of his displeasure, and that he will not allow them to approach nearer; and if they persist he will immediately attack and gore them with his tusks, for which reason they take care to retreat in good time. He however generally allows them to approach, and sometimes even advances to meet them.

The drivers now conduct two of the females, one on each side, close to him, and make them press themselves gently against his neck and shoulders; the third female then comes up and places herself directly across his tail: in this situation, so far from suspecting any design against his liberty, he begins to toy with the females, and caress them with his trunk. While thus engaged, the fourth female is brought near, with ropes and proper assistants, who immediately get under the belly of the animal at the tail, and put a slight cord round his hind legs. If he takes no notice of this slight confinement, the hunters proceed to tie his legs with a stronger cord, which is passed alternately, by means of a

forked stick, and a kind of hook, from one leg to the other, forming a figure of 8. Six or eight of these cords are generally employed, one above another, and they are fastened at their intersections by another cord, that is made to pass perpendicularly up and down. A strong cable, with a running noose, sixty cubits long, is next put round each hind leg, above the other cords, and afterwards six or eight more like the former are crossed from leg to leg, above the cables. The putting on of these ropes usually occupies about twenty minutes, during which time the utmost silence is observed.

When thus properly secured, he is left to himself, the Koomkees retiring to a little distance; in attempting to follow them, he finds his legs tied, and becoming sensible of the danger of his situation, immediately retreats towards the jungle. The drivers on the tame Elephants, accompanied by a number of people who till this time had been kept out of sight, follow him at a little distance, and as soon as he passes near a tree sufficiently stout to hold him, they make a few turns of the long cables which trailed behind him round its trunk. His progress being thus stopped, he becomes furious, and exerts his utmost efforts to disengage himself. The Koomkees dare not now come near him, and in his fury he falls down on the earth and tears it up with his tusks. In these exertions he sometimes breaks the cables, and escapes into the thick jungle: here the drivers dare not advance for fear of the other wild Elephants, and are therefore obliged to leave him to his fate: and in this hampered situation, it is said, he is even ungenerously

attacked by his former companions. But as the cables are strong, and very seldom give way, when he has exhausted himself by his exertions, the Koomkees are again brought near and take their former positions, one on each side and the other behind. After getting him nearer the tree, the people carry the ends of the long cables two or three times round it, so as to prevent even the possibility of his escape. His fore-legs are now tied exactly in the same manner as his hind-legs were, and the cables are made fast, one on each side, to trees or stakes driven deep into the earth.

When he has become more settled, and will eat a little food, with which he is supplied as soon as he is taken, the Koomkees are again brought near, and a strong rope is then put twice round his body, close to his fore-legs, like a girth, and tied behind his shoulder; then the long end is carried back close to his rump, and there fastened, after a couple of turns more have been made round his body. Another cord is next fastened to this, and from thence carried under his tail like a crupper, and brought forward and fastened to each of the girths. A strong rope is now put round his buttocks, and made fast on each side to the girth and crupper, so as to confine the motion of his thighs, and prevent his taking a full step. A couple of large cables, with running nooses, are put about his neck, there secured, and then tied to the ropes on each side. Thus completely hampered, the cables round his neck are made fast to two Koomkees, one on each side.

Every thing being now ready, and a passage cleared from the jungle, all the ropes are taken from his legs, except the strong one round his buttocks to confine the motion of his hind-legs, which is still left. The Koomkees pull him forward, sometimes, however, not without much struggling and violence on his part. When brought to his proper station, and made fast, he is treated with a mixture of severity and gentleness, and generally in a few months becomes tractable, and appears perfectly reconciled to his fate.

It seems somewhat extraordinary, that though the animal uses his utmost force to disengage himself when taken, and would kill any person coming within his reach, yet he never, or at least seldom, attempts to hurt the females that have ensnared him; but on the contrary seems (as often as they are brought near, in order to adjust his harnessing, or move and slacken those ropes which gall him,) pleased, soothed, and comforted by them, as it were for the loss of his liberty.

The mode of securing a herd of wild Elephants is very different from that adopted in taking a single male, and the process is of course much longer and more tedious.

When a herd, which generally consists of from about forty to one hundred, and is conducted by the oldest and largest male and female amongst them, is discovered, about five hundred people are employed to surround it. By means of fire and noises, they in the course of some days are able to drive them to the place where they are to be

secured. This is called the Keddah ; it consists of three inclosures, communicating with each other by means of narrow openings or gateways. The outer one is the largest, the middle generally the next in size, and the third or furthestmost the smallest. When the animals are arrived near the first inclosure, the pallisadoes and two gates of which are as much as possible disguised with branches of trees and bamboos stuck in the ground, so as to give them the appearance of a natural jungle, great difficulty attends the getting of them in. The female leader always suspects some snare, and it is not without the utmost hesitation that she passes ; but as soon as she enters, all the rest implicitly follow. Immediately when they are past the gateway, fires are lighted round the greatest part of the inclosure, and particularly at the entries, to prevent the Elephants from returning. The hunters from without then make a terrible noise by shouting, beating of tomtoms, (a kind of drum), firing blunt cartridges, &c. to urge them on to the next inclosure. The Elephants, finding themselves entrapped, scream and make a noise, and discovering no opening except the entrance to the next inclosure, they at length, but not before they have many times traversed round their present situation, following their leader, enter it. The gate is instantly shut upon them, fires are lighted, and the same discordant noises made as before, till they have passed through another gateway into the last inclosure, where they are secured in a similar manner. Being now completely surrounded on all

sides, and perceiving no outlet through which they can escape, the Elephants appear desperate, and in their fury advance frequently to the surrounding ditch in order to break down the pallisade, inflating their trunks, and screaming out aloud : but wherever they make an attack, they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. The ditch is then filled with water, and after a while they have recourse to it in order to quench their thirst and cool themselves, which they do by drawing the water into their trunks, and then squirting it over every part of their bodies.

When the Elephants have continued in the inclosure a few days, where they have been regularly, though scantily, fed from a scaffold on the outside, the door of the Roomee, an outlet about sixty feet long and very narrow, is opened, and some one of the Elephants is enticed to enter by having food thrown on before it.* When the animal has advanced far enough to permit it, the gate is shut and well secured on both sides. Finding his retreat now cut off, and the place so narrow that he cannot turn himself, he advances and exerts his utmost efforts to break down the bars in the front of him, running against them, screaming and roaring most violently, and battering them, like a ram, by repeated blows with his head, retreating and ad-

* In many places this mode is not adopted ; for as soon as the herd has been surrounded by a strong pallisade, Koomkees are sent in with proper people, who tie them on the spot, in the manner we have mentioned of the single male Elephants.

vancing with the utmost fury. In his rage he even rises up, and leaps upon the bars with his fore-feet, striving to break them down with his huge weight. When he becomes somewhat fatigued with these exertions, ropes are, by degrees, put round him; and he is secured in a manner nearly similar to that adopted in taking the single males. And thus, in succession, they are all secured.

The Elephants are now separated, and each put under the care of a keeper, who is appointed to attend and instruct him. Under this man are three or four others, who assist in supplying food and water till the animal becomes sufficiently tractable to take food of himself. A variety of soothing and caressing arts are practised; sometimes the keeper threatens and even goads him with a long stick pointed with iron, but more generally coaxes and flatters him, scratching his head and trunk with a long bamboo split at one end into many pieces, and driving away the flies from his sores and bruises. In order to keep him cool he likewise squirts water all over him, carefully standing out of the reach of his trunk. In a few days he advances cautiously to his side, and strokes and pats him with his hand, at the same time speaking to him in a soothing voice; and, after a little while, he begins to know his keeper and to obey his commands. By degrees the keeper becomes familiar, and at length mounts upon his back from one of the tame Elephants; from hence he gradually gets forward, as the animal becomes more tame, till at last he is permitted to seat himself on his neck; from which

place he afterwards regulates and directs all his motions. While they are training in this manner, the tame Elephants lead the others out in turn, for the sake of exercise, and likewise to ease their legs from the cords with which they are tied, and which are apt to gall them extremely, unless they are regularly slackened and shifted.

In five or six weeks the Elephant becomes obedient to his keeper, his fetters are taken off by degrees, and generally in about six months he suffers himself to be conducted by his keeper from one place to another. Care, however, is always taken not to let him approach his former haunts, lest a recollection of the freedom he there enjoyed should induce him again to recover his liberty.*

The following is Mr. Bruce's account of the Elephant-hunting in Abyssinia. The men who make the hunting of Elephants their business, he says, dwell constantly in the woods, and live entirely upon the flesh of the animals they kill, which is chiefly that of the Elephant or Rhinoceros. They are exceedingly thin, light, and agile both on horse-back and foot. They are called Agageer; a name derived from the word Agar, which signifies to hough or ham-string with a sharp weapon. More properly it means, indeed, the cutting of the tendon of the heel, and is a characteristic of the manner in which they kill the Elephant, which is thus:—Two men, quite naked, to prevent their being

* See a paper of John Corse, esq. on the method of catching wild Elephants at Tipura in the East Indies, inserted in the Asiatic Researches.

laid hold of by the trees or bushes in making their escape from this very watchful enemy, get on horseback. One of these riders sits on the back of the horse, sometimes with a saddle, and sometimes without one, with only a switch or short stick in one hand, carefully managing the bridle with the other; behind him sits his companion, armed only with a broad-sword. His left hand is employed in grasping the sword by the handle; about fourteen inches of the blade of which are covered with whipcord. This part he takes in his right hand, without any danger of being hurt by it; and, though the edges of the lower part of the sword are as sharp as a razor, he carries it without a scabbard.

As soon as an elephant is found feeding, the horseman rides before him, as near his face as possible; or, if he flies, crosses him in all directions, calling out, "I am such a man, and such a man; this is my horse, that has such a name; I killed your father in such a place, and your grandfather in such another place; and I am now come to kill you; you are but an ass in comparison with them." This nonsense he believes the Elephant perfectly understands, who, chafed and angry at hearing the noise immediately before him, attempts to seize him with his trunk; and, intent upon this, follows the horse every where, turning round and round with him, neglectful of making his escape by running straight forward, in which consists his only safety. After having made him turn a few times in pursuit of the horse, the horseman rides close up along-side of him, and drops his companion just behind, on the

off side; and while he engages the Elephant's attention upon the horse, the footman behind gives him a drawn stroke just above the heel, into what in man is called the tendon of Achilles. This is the critical moment; the horseman immediately wheels round, again takes his companion up behind him, and rides off at full speed after the rest of the herd, if they have started more than one; and sometimes an expert Agageer will kill three out of one herd. If the sword is good, and the man not afraid, the tendon is commonly entirely separated; and if it is not cut through, is generally so far divided that the animal, with the stress he puts upon it, breaks the remaining part asunder. In either case, he remains incapable of advancing a step, till the horseman returning, or his companions coming up, pierce him through with javelins and lances; he then falls to the ground, and expires from loss of blood.

The Elephant once slain, they cut the whole flesh off his bones into thongs, like the reins of a bridle, and hang these, like festoons, upon the branches of trees till they become perfectly dry, without salt, and they then lay them by for their provision in the season of the rains,

In one of these Elephant-huntings, Mr. Bruce mentions a striking instance of affection in a young one to its mother: "There now remained (says he,) but two Elephants of those that had been discovered, which were a she one with a calf. The Agageer would willingly have let these alone, as the teeth of the female are very small, and the young one is of no

sort of value, even as food, its flesh shrinking much upon drying. But the hunters would not be limited in their sport. The people having observed the place of her retreat, thither we eagerly followed. She was very soon found, and as soon lamed by the Agageers; but when they came to wound her with their darts, as every one did in their turn, to our very great surprize, the young one, which had been suffered to escape unheeded, and unpursued, came out from the thicket, apparently in great anger, running upon the horses and men with all the violence it was master of. I was amazed, and as much as ever I was, upon such an occasion, afflicted, at seeing the great affection of the little animal in defending its wounded mother, heedless of its own life or safety. I, therefore, cried to them, for God's sake to spare the mother, but it was then too late; and the calf had made several rude attacks upon me, which I avoided without difficulty; but I am happy to this day, in the reflection that I did not strike it. At last, making one of its attacks upon *Ayton Egedan* (another of the party,) it hurt him a little on the leg; on which he thrust it through with his lance, as others did after, and it then fell dead before its wounded mother, whom it had so affectionately defended. It was about the size of an ass, but round, big-bellied, and heavily made; and was so furious and unruly, that it would easily have broken the leg either of a man or horse, could it have overtaken, and jostled against them properly."

In some parts of the East the Elephants are taken by means of pit-falls. Through the woody forests, several paths are cut; in these are dug deep and large holes, which are carefully covered over with branches and loose earth. The Elephant-hunters, then, by the continued noises of shouting and beating of drums, rouse the animals of the neighbourhood, and with lighted torches frighten them into these recesses, where they tumble headlong through the loose covering into the pits. When the hunters have sufficiently secured them with strong ropes tied round their limbs, they are dragged out and taken home to be tamed. Of their mode of performing this we shall give the account of Tavernier, from his travels in India, who tells us that he was himself present at the taming of two that had been taken not long before. "After two hours travel we came to a great village, where we saw the two Elephants that had been lately taken. Each of these was placed between two tame ones. Round the wild Elephants stood six men, each with a half-pike in his hand, with a lighted torch fastened at the end of it, who talked to the animals, giving them meat, and calling to them in their own language '*take it, take it.*' If the wild Elephants refused to do as they were bidden, the men made signs to the tame ones to beat them, which they did thus, one of them banged the refractory Elephant about the head with his trunk, and if he offered to make any resistance, the other thwacked him on the other side, so that the poor animal, not

knowing what to do, was at length constrained to become obedient.”*

It has been stated, that the sagacity of the Elephant is so great, and his memory so retentive, that when once he has received an injury, or been in bondage, and afterwards escapes, it is not possible, by any art, again to entrap him. The following instances recorded in the Philosophical Transactions for 1799, will however prove that this is not the fact :—

“A female Elephant was first taken in the year 1765, by Rajah *Kishun Maunick*, who, about six months after gave her to *Abdoor Rezah*, a man of some rank and consequence in the district. In 1767, the Rajah sent a force against this *Abdoor Rezah*, for some refractory conduct, who, in his retreat to the hills, turned her loose into the woods, after having used her above two years as a riding Elephant. She was afterwards retaken, but broke loose in a stormy night, and again escaped. In the year 1782, above ten years after her second escape, she was driven by the Elephant-hunters belonging to Mr. Leeke, of Longford-hall, in Shropshire, into the inclosure in which the Elephants are secured; and the day following, when Mr. Leeke went to see the herd that had been taken, this Elephant was pointed out to him by the hunters, who well recollected her. They frequently called to her by name; to which she seemed to pay some

* A mode of taming Elephants somewhat similar to this, is now practised in the island of Ceylon. Thunburg, iv 242.

attention, by immediately looking towards them when it was repeated; nor did she appear like the wild Elephants, who were constantly running about the inclosure in a rage, but seemed perfectly reconciled to her situation.

“ For the space of eighteen days she never went near enough the outlet to be secured; from a recollection perhaps of what she had twice before suffered.* Mr. Leeke, at length went himself, when there were only herself, another female, and eight young ones remaining in the inclosure. After the other female had been secured, by means of the trained female Elephants, called *Koomkees*, sent in for that purpose, the hunters were ordered to call on her by her name. She immediately came to the side of the ditch, within the inclosure; on which some of the drivers were desired to carry in a plantain tree, the leaves of which she not only took from their hands with her trunk, but opened her mouth for them to put a leaf into it, which they did, stroking and caressing her, and calling to her by name. One of the trained Elephants was now ordered to be brought to her, and the driver to take her by the ear and order her to lie down. At first she did not like the *Koomkee* to go near her, and retired to a distance, seemingly angry: but, when the drivers, who were on foot, called to her, she came immediately and allowed them to stroke and caress her as before; and in a few mi-

* When Elephants are secured in the outlet from the inclosure, they bruise themselves terribly.

nutes after permitted the trained Elephants to be familiar. A driver from one of these then fastened a rope round her body, and instantly jumped on her back, which, at the moment, she did not like, but was soon reconciled to it. A small cord was next fastened round her neck, for the driver to put his feet in, who, seating himself on the neck, in the usual manner, drove her about the inclosure, the same as any of the tame Elephants.

“After this he ordered her to lie down, which she instantly did; nor did she rise till she was desired. He fed her from his seat, gave her his stick to hold, which she took with her trunk, and put into her mouth, kept, and then returned it, as she was directed, and as she formerly had been accustomed to do. In short, she was so obedient, that had there been more wild Elephants in the inclosure, to tie, she would have been useful in securing them.”

“In June 1787, a male Elephant, taken the year before, was travelling, in company with some others, towards Chittigong, laden with baggage; and having come upon a Tiger’s track, which Elephants discover readily by the smell, he took fright and ran off to the woods, in spite of all the efforts of his driver. On entering the wood, the driver saved himself by springing from the animal and clinging to the branch of a tree under which he was passing. When the Elephant had got rid of his driver he soon contrived to shake off his load. As soon as he ran away, a trained female was dispatched after him, but could not get up in time to prevent his escape.

“Eighteen months after this, when a herd of Elephants had been taken, and had remained several days in the inclosure, till they were enticed into the outlet, there tied, and led out in the usual manner, one of the drivers, viewing a male Elephant very attentively, declared he resembled the one which had run away. This excited the curiosity of every one to go and look at him; but, when any person came near, the animal struck at him with his trunk, and in every respect appeared as wild and outrageous as any of the other Elephants.

“An old hunter at length coming up and examining him, declared that he was the very Elephant that had made his escape.

“Confident of this, he boldly rode up to him on a tame Elephant, and ordered him to lie down, pulling him by the ear at the same time. The animal seemed quite taken by surprize, and instantly obeyed the word of command, uttering at the same time a peculiar shrill squeak through his trunk, as he had formerly been known to do; by which he was immediately recognized by every person who was acquainted with this peculiarity.”

Thus we see that this Elephant, for the space of eight or ten days, during which he was in the inclosure, appeared equally wild and fierce with the boldest Elephant then taken; but the moment he was addressed in a commanding tone, the recollection of his former obedience seemed to rush upon him at once; and, without any difficulty, he permitted a driver to be seated on his neck, who in a few days made him as tractable as ever.

“A female Elephant, belonging to a gentleman at Calcutta, being ordered from the upper country to Chotygoné, by chance broke loose from her keeper, and was lost in the woods. The excuses which the keeper made were not admitted; it was supposed that he had sold the Elephant; his wife and family therefore were sold for slaves, and he was himself condemned to work upon the roads. About twelve years afterwards this man was ordered up into the country to assist in catching the wild Elephants. The keeper fancied he saw his long-lost Elephant in a group that was before them: he was determined to go up to it; nor could the strongest representations of the great hazard he ran dissuade him from his purpose. When he approached the creature, she knew him, and giving him three salutes, by waving her trunk in the air, knelt down and received him on her back. She afterwards assisted in securing the other Elephants, and likewise brought with her three young ones, which she had had during her absence. The keeper recovered his character, and as a recompence for his sufferings and intrepidity, had an annuity settled on him for life. This Elephant was afterwards in the possession of Governor Hastings.”

These and several other instances which have occurred, clearly evince, that Elephants have not the sagacity to avoid a snare into which they have, even more than once, fallen.

The Elephant, when tamed, becomes the most gentle and most obedient of all domestic animals. He is so fond of his keeper, that he caresses him,

and anticipates his commands, by foreseeing every thing that will please him. He soon learns to comprehend signs, and even to understand the expression of sounds. He distinguishes the tones of command, of anger, or of approbation, and regulates his actions accordingly. He never mistakes the voice of his master. He receives his orders with attention, executes them with prudence and eagerness, but without any degree of precipitation ; for his movements are always measured, and his character seems to partake of the gravity of his mass. He easily learns to bend his knees for the accommodation of those who mount him. His friends he caresses with his trunk, salutes with it such people as are pointed out to him, uses it for raising burthens, and assists in loading himself. He allows himself to be cloathed, and seems to have a pleasure in being covered with gilded harness, and brilliant housings. He is employed in drawing chariots, ploughs, wag-gons, &c. He draws equally, and never turns restive, provided he is not insulted with improper chastisement, and the people who labour with him have the air of being pleased with the manner in which he employs his strength. The man who conducts him generally rides on his neck, and uses an iron rod, hooked at the end, or having there a kind of bodkin, with which he pricks the head or sides of the ears in order to urge him forward, or to make him turn. But words are generally sufficient, especially if the animal has had time to acquire a complete acquaintance with his conductor, and to put entire confidence in him. The

attachment of the Elephant becomes sometimes so strong, and his affection so warm and durable, that he has been known to die of sorrow, when, in a paroxysm of rage, he had killed his guide.

The domestic Elephant performs more work than perhaps six horses; but he requires from his master much care, and a great deal of good victuals. He is generally fed with rice, raw or boiled, and mixed with water. To keep him in full vigour, he is said to require daily a hundred pounds weight of this food, besides fresh herbage to cool him, for he is subject to be over-heated, and must be led to the water twice or thrice a day for the benefit of bathing. He takes the water up in his trunk, carries it to his mouth, drinks part of it, and, by elevating his trunk, allows the remainder to run over every part of his body. His daily consumption of water, as drink, has been calculated at forty-five gallons.*

To give an idea of the labour he performs, it is sufficient to remark, that all the tuns, sacks, and bales, transported from one place to another in India, are carried by Elephants; that they carry burthens on their bodies, their necks, their tusks, and even in their mouths, by giving them the end of a rope, which they hold fast with their teeth; that, uniting sagacity to strength, they never break or injure any thing committed to their charge; that, from the margins of the waters, they put these bundles into boats without wetting them, laying them down gently, and arranging them

* Thunberg, iv. 244.

where they ought to be placed; that, when disposed in the places where their masters direct, they try with their trunks whether the goods are properly stowed; and, if a tun or cask rolls, they go, of their own accord, in quest of stones to prop, and render it firm.

“I was,” says M. Phillipe, “an eye-witness to the following facts:—At Goa, there are always some Elephants employed in the building of ships. I one day went to the side of the river, near which a great ship was building, where there is a large area filled with beams for that purpose. Some men tie the ends of the heaviest beams with a rope, which is handed to an Elephant, who carries it to his mouth, and after twisting it round his trunk, draws it, without any conductor, to the place where the ship is building, though it may only have been once pointed out to him. One of these sometimes drew beams so large that more than twenty men would have been unable to move them. But what surprized me still more, when other beams obstructed the road, he elevated the ends of his own beams, that they might run easily over those which lay in his way. Could the most enlightened man do more?”*

At Mahie, on the coast of Malabar, M. Toreen tells us, he had an opportunity of admiring the sagacity of an Elephant; Its master had let it for a certain sum per day; its employment was to carry (with its trunk), timber for a building, out

* Voyage du M. Phillipe, quoted in Buff. Quad.

of the river, which business it dispatched very dexterously, under the command of a boy, and afterwards laid each piece one upon another, in such exact order, that no man could have done it better.*

Elephants not only obey the voice of their keepers when present, but some, even in their absence, will perform uncommon tasks, which have been previously explained to them. "I have seen two," says M. D'Obsonville, "occupied in beating down a wall, which their *Cornacs* had desired them to do, and encouraged them by a promise of fruits and brandy. They combined their efforts, and doubling up their trunks, which were guarded from injury by leather, thrust against the strongest part of the wall, and by reiterated shocks, continued their efforts, carefully observing and following the effects of the equilibrium with their eyes: then, at last, when it was sufficiently loosened, making one grand push, they suddenly drew back together, that they might not be wounded, and the whole came tumbling to the ground.†

Now that fire-arms are the principal implements of war, Elephants, which are terrified at the noise and flame, instead of being useful, would, in action, only tend to embarrass and confuse an army. In Cochin, and other parts of Malabar, however, as well as in Tonquin, Siam, and Pegu, where fire-arms are but little understood, they are still used in battle. The guide sits astride upon the neck,

* Voyage to Surat, quoted in Buff. Quad.

† D'Obsonville, 163.

and the combatants sit or stand upon the other parts of the body. They are also extremely serviceable in the fording of rivers, and in carrying over the baggage on their backs. After the keepers have loaded them with several hundred weight, they fasten ropes to them ; of which the soldiers taking hold, either swim, or are drawn across the water. In time of action a heavy iron chain is sometimes fixed to the end of their trunks, which they whirl round with such agility as to render it impossible for an enemy to approach them at that time. Another use they still have for this creature in war, is to force open the gates of a city or garrison, which is closely besieged. This he does by setting his posteriors against them, and moving backwards and forwards till he has burst the bars, and forced an entrance : To prevent which, most of the garrisons in this country have large spikes stuck in their gates, that project to a considerable distance.

The Elephant is, however, still used in dragging artillery over mountains ; and it is on such occasions that his sagacity is most conspicuous. When the Oxen, yoked to a cannon, make an effort to pull it up a declivity, the Elephant pushes the breach with his front, and at each effort supports the carriage with his knee, which he places against the wheel. He seems to understand whatever is said to him.

When his conductor wants him to execute any painful labour, he explains the nature of the operations, and recites the reasons which ought to induce him to obey. If the Elephant shews a repugnance to what is exacted of him, his *Cornac*, or con-

ductor, promises to give him arrack, or somewhat else that he likes. But it is extremely dangerous to break any promise that is made to him : many cornacks have fallen victims to indiscretions of this kind.

If, however, he is vindictive, the Elephant is not ungrateful. A soldier at Pondicherry was accustomed to give a certain quantity of arrack to one of these animals, every time he got his pay ; and having one day intoxicated himself, and being pursued by the guard, who wanted to put him in prison ; he took refuge under the Elephant, and there fell fast asleep. The guard in vain attempted to drag him from this asylum, for the Elephant defended him with its trunk. Next day the soldier having recovered from his intoxication, was in dreadful apprehensions when he found himself under the belly of this enormous animal. The Elephant, which unquestionably perceived his terror, relieved his fears by immediately caressing him with its trunk.

This animal is, during the rutting season, seized with a madness which deprives him of all tractability, and renders him so formidable, that it is often necessary to kill him. The people try to bind him with large iron chains, in the hope of reclaiming him : but in his ordinary state, the most acute pains will not provoke him to hurt those who have never injured him. An Elephant, rendered furious by the wounds it had received at the battle of Harbour, ran about the field making the most hideous cries. A soldier, notwithstanding the alarms of

his comrades, was unable, perhaps on account of his wounds, to fly. The Elephant approached, seemed afraid of trampling him under its feet, took him up with its trunk, placed him gently on his side, and continued its route.

An incident to which M. le Baron de Lawriston was a witness, during one of the late wars in the East, forms another trait of the sensibility of the Elephant. This gentleman, from his zeal, and some other circumstances, was induced to go to Laknaor, the capital of the Soubah, or viceroyalty of that name, at a time when an epidemic distemper was making the greatest ravages amongst the inhabitants. The principal road to the palace gate was covered with the sick and dying, extended on the ground at the very moment when the nabob absolutely must pass. It appeared impossible for his Elephant to do otherwise than tread upon and crush many of these poor wretches in his passage, unless the prince would stop till the way could be cleared; but he was in haste, and such tenderness would be unbecoming in a personage of his importance. The Elephant however, without appearing to slacken his pace, and without having received any command for that purpose, assisted them with his trunk, removed some, set others on their feet, and stepped over the rest with so much address and assiduity, that not one person was wounded. An Asiatic prince and his slaves were deaf to the cries of nature, while the heart of the beast relented; he, more worthy than

his rider to elevate his front towards the heavens, heard and obeyed the gentle impulse.*

The following instance of the sagacity of these animals, was mentioned to Dr. Darwin by some gentlemen of distinct observation, and undoubted veracity, who had been much conversant with our Eastern settlements. The Elephants that are used to carry the baggage of our armies, are put each under the care of one of the natives of Indostan, and whilst this person and his wife go into the woods to collect leaves and branches of trees for his food, they fix him to the ground by a length of chain, and frequently leave a child yet unable to walk, under his protection; and the intelligent animal not only defends it, but, as it creeps about, when it arrives near the extremity of his chain, he wraps his trunk gently round its body, and brings it again into the centre of his circle.†

During one of the wars in India, many Frenchmen had an opportunity of observing one of the Elephants that had received a flesh-wound from a cannon-ball: after having been twice or thrice conducted to the hospital, where he extended himself to be dressed, he afterwards used to go alone. The surgeon did whatever he thought necessary, applying sometimes even fire to the wound; and though the pain made the animal often utter the most plaintive groans, he never expressed any other tokens than those of gratitude to this person, who by momentary torments endeavoured, and in the end, effected his cure.‡

* D'Obsonville, 160. † Darwin's Zoonomia. ‡ D'Obsonville, 163.

In the last war, a young Elephant received a violent wound in its head, the pain of which rendered it so frantic and ungovernable, that it was found impossible to persuade the animal to have it dressed. Whenever any one approached, it ran off with fury, and would suffer no person to come within several yards of it. The man who had the care of it at length hit upon a contrivance for securing it: by a few words and signs he gave the mother of the animal sufficient intelligence of what was wanted the sensible creature immediately seized her young one with her trunk, and held it firmly down, though groaning with agony, while the surgeon completely dressed the wound: and she continued to perform this service every day till the animal was perfectly recovered.

In many parts of India the Elephants are made the executioners of justice, for they will, with their trunks, break every limb of a criminal, trample him to death, or transfix him with their tusks, as they are directed.

In India they were once employed in the launching of ships: one was directed to force a very large vessel into the water; the work proved superior to his strength: his master, with a sarcastic tone, bid the keeper take away this lazy beast, and bring another: the poor animal instantly repeated his efforts, fractured his skull, and died on the spot.*

In the Philosophical Transactions, a story is related of an Elephant having such an attach-

* Penn. Quad. i. 155. related from Ludolph. Com. in Hist. Æth. 147.

ment for a very young child, that he was never happy but when it was near him. The nurse used, therefore, very frequently to take the child in its cradle, and place it betwixt his feet, and this he became at length so much accustomed to, that he would never eat his food except when it was present. When the child slept he used to drive off the flies with his proboscis, and when it cried he would move the cradle backwards and forwards, and thus again rock it to sleep.*

A centinel belonging to the present menagerie at Paris was always very careful in requesting the spectators not to give the Elephants any thing to eat. This conduct particularly displeased the female, who beheld him with a very unfavourable eye, and had several times endeavoured to correct his interference by besprinkling his head with water from her trunk. One day, when several persons were collected to view these animals, a bye-stander offered the female a bit of bread, the centinel perceived it, but the moment he opened his mouth to give his usual admonition, she, placing herself immediately before him, discharged in his face a considerable stream of water. A general laugh ensued; but the centinel, having calmly wiped his face, stood a little to one side, and continued as vigilant as before. Soon afterwards he found himself under the necessity of repeating his admonition to the spectators, but no sooner was this uttered than the female laid hold of his musket, twirled it round with her trunk, trod

* Phil. Tran. xxviii. 65.

it under her feet, and did not restore it till she had twisted it into the form of a screw.*

M. Navarette says that, at Macasar, an Elephant-driver had a cocoa-nut given him, which he, out of wantonness, struck twice against his Elephant's forehead to break. The day following the animal saw some cocoa-nuts exposed in the street for sale, and taking one of them up with his trunk, beat it about the driver's head, till the man was completely dead. "This comes (says our author,) of jesting with Elephants."†

An Elephant that was exhibited in France some years ago, seemed to know when it was mocked by any person; and remembered the affront till an opportunity for revenge occurred. A man deceived it, by pretending to throw something into its mouth: the animal gave him such a blow by its trunk, as knocked him down, and broke two of his ribs. After which it trampled on him with its feet, broke one of his legs, and bending down on its knees, endeavoured to push its tusks into his body; but they luckily ran into the ground on each side of his thigh, without doing him any injury.

This Elephant generally made less use of its strength than its address. With great ease and coolness, it loosened the buckle of a large double leathern strap with which its leg was fixed: and, though the domestics had wrapped the buckle round with a small cord, and tied many knots on it, the creature deliberately loosened the whole, without

* Tilloch.

† Navarette, i. 263.

breaking either the cord or the strap. One night, after disengaging itself in this manner from its strap, it broke up the door of its lodge with such dexterity as not to awaken the keeper. From thence it went into several courts of the menagerie, forcing open doors, and throwing down the walls when the doors were too narrow to let it pass. In this manner it got access to the apartments of other animals, and so terrified them that they fled into the most retired corners of the inclosure.*

“I have frequently remarked (says Terry, in his Voyage to the East Indies,) that the Elephant performs many actions, which seem to proceed more from reason than from instinct. He does every thing that his master commands: if he wants to terrify any person, he runs upon him with every appearance of fury, and, when he comes near, stops short, without doing him the least injury. When the master chuses to affront any one, he tells the Elephant, who collects water and mud with his trunk, and squirts it upon the object pointed out to him.”

That they are susceptible of the warmest attachment to each other, the following account extracted from a late French journal will afford sufficient proof. Two Ceylonese Elephants, a male and female, were brought into Holland, when very young, about twelve years ago. They had been separated, in order to be conveyed from the Hague to Paris, where, in the Museum of Natural History, a

spacious hall was prepared for their reception. This was divided into two apartments, which had a communication by means of a large door resembling a portcullis. The inclosure round these apartments consisted of very strong wooden rails. The morning after their arrival they were conveyed to this habitation. The male was first brought, he entered the apartment with suspicion, reconnoitered the place, and then examined each bar separately with his trunk, and tried their solidity by shaking them. He attempted to turn the large screws on the outside which held them together, but was not able. When he arrived at the portcullis which separated the apartments, he observed that it was fastened only by a perpendicular iron bar : this he raised with his trunk, then pushed up the door, and entered the second apartment, where he received his breakfast.

These two animals had been with the utmost difficulty parted in order to travel separately, and had not seen each other for some months ; and the joy they experienced on meeting again, after so long a separation, is scarcely to be expressed. The two animals immediately rushed towards each other, and sent forth cries of joy so animated and loud that they shook the whole hall : they breathed also through their trunks with such violence, that the blast resembled an impetuous gust of wind. The joy of the female was the most lively : she expressed it by quickly flapping her ears, which she made to move with astonishing velocity, and drew her trunk over the body of the male with

the utmost tenderness. She, in particular, applied it to his ear, where she kept it a long time, and after having drawn it over the whole body of the male, often moved it affectionately towards her own mouth. The male did the same over the body of the female, but his joy was more concentrated. He seemed, however, to express it by his tears, which fell from his eyes in abundance. Since this time they have occupied the same apartment, and their mutual tenderness and natural affection have excited the admiration, and even the esteem of all who have visited them.

The Elephant, it is said, is even able to write with a pen. "I have myself seen (says *Ælian*,) an Elephant writing Latin characters on a board in a very orderly manner, his keeper only shewing him the figure of each letter. While thus employed, the eyes might be observed studiously cast down upon the writing, and exhibiting an appearance of great skill and erudition."*

Dr. Darwin tells us, that he was informed by a gentleman of veracity, that, in some parts of the East, Elephants are taught to walk on a narrow path between two pit-falls, which are covered with turf, and then to go into the woods, and to seduce the wild Elephants to come that way, who fall into these wells, whilst he passes safe between them: and it is universally observed, that those wild Elephants that escape the snare, pursue the traitor with the utmost vehemence, and if they can over-

* Opera Claudii *Æliani*, Cura. Con. Gesneri.

take him, which sometimes happens, they always beat him to death.*

Tavernier relates that one of the kings of India, was in a hunting-party, with his son, upon an Elephant, when the animal, being seized with one of his periodical fits of madness, became at once ungovernable and furious. The Cornac told the king, that, to allay the fury of the animal, who would otherwise doubtless bruise them all to death among the trees, one of the three must sacrifice his life; and that he would willingly yield his for the preservation of the other two; and in return only intreated that the king would provide for his family after his death. This being promised, he threw himself headlong under the animal's feet, who seized him with his trunk, and afterwards, by trampling, crushed him to pieces. The Elephant soon seemed to repent of having thus, without provocation, murdered his keeper, and without any farther difficulty became perfectly quiet. The king, says our author, provided liberally for the wife and children of the poor fellow, who had thus signally and generously sacrificed his life for the safety of him and his son.†

These animals, when hunted, endeavour to avoid muddy rivers, with the greatest care, probably that they may not stick fast in the ooze; while, on the other hand, they industriously seek out the larger rivers, which they swim over with great ease. For, notwithstanding that the Elephant, from his feet

* Darwin's *Zoonomia*.

† Tavernier's *Travels in India*.

and the position of his limbs, does not seem to be adapted for swimming, when he is out of his depth in the water, his body and head being entirely sunk under the surface, yet he is in less danger of being drowned than many other land animals, as he carries his long trunk raised above the surface of the water in order to breathe, and can steer his course in it by means of this appendage. It has consequently been observed, that when several Elephants have swam over a river at the same time, they have all found the way very well; and have been able also to avoid running foul of each other, though their heads and eyes have been all the while under water.

These animals are said to be kept in many parts of India, more for shew and grandeur than for use. And their keeping is attended with a very great expence, for they devour vast quantities of provision; and they must sometimes be regaled with a plentiful repast of cinnamon, of which they are exceedingly fond. It is said to be no uncommon thing for a nabob, if he wishes to ruin a private gentleman, to make him a present of an Elephant, which he is ever afterwards obliged to maintain at a greater expence than he can afford; by parting with it he would certainly fall under the displeasure of the grandee, besides forfeiting all the honour which his countrymen think is conferred upon him, by so respectable a present.

In the Island of Ceylon the general value of an Elephant is about fifty pounds sterling: but if there is any blemish; if, for instance, its

tail has been plucked off, one of its ears slit, or it has suffered any other kind of damage, very considerable deductions are made. And, as it is very rare to find an Elephant free from every kind of blemish, those that are so are commonly sold for from one to two hundred pounds each. They are taken at certain stated periods, and generally sold, a great number together, by auction; and it is customary for two or more persons to purchase conjointly, fifty, sixty, or a hundred Elephants, which they afterwards dispose of in separate lots, with great profit.*

Elephants are said to be extremely susceptible of the power of music. Suetonius relates that the emperor Domitian had a troop of Elephants disciplined to dance to the sound of music, and that one of them who had been beaten for not having his lesson perfect, was observed the night afterwards in a meadow, practising it by himself.

At Paris some curious experiments have been lately made on the power of music over the sensibility of the Elephant. A band of music went to play in a gallery extending round the upper part of the stalls in which were kept two Elephants, distinguished by the names of *Margaret* and *Hans*. Dead silence was procured. Some provisions of which they were fond were given to engage their attention, and the musicians began to play. The music no sooner struck their ears, than they ceased from eating, and turned in surprise to observe

* Thunberg, iv. 243.

whence the sounds proceeded. At sight of the gallery, the orchestra, and the assembled spectators, they discovered considerable alarm, as though they imagined there was some design against their safety. But the music soon overpowered their fears, and all other emotions became completely absorbed in their attention to it. Music of a bold and wild expression excited in them turbulent agitations, expressive either of violent joy, or of rising fury. A soft air performed on the bassoon, evidently soothed them to gentle and tender emotions. A gay and lively air moved, especially the female, to demonstrations of highly sportive sensibility. Other variations of the music produced corresponding changes in the emotions of the Elephants.

The Indians, prejudiced with the notion of the transmigration of souls, are persuaded that a body so majestic as that of the Elephant, must be animated with the soul of a great man or a king. In many of the Eastern countries the white Elephants are regarded as the living *manes* of the Indian emperors. Each of these animals has a palace, a number of domestics, golden vessels filled with the choicest food, magnificent garments, and they are absolved from all labour and servitude. The emperor is the only personage before whom they bow the knee, and their salute is returned by the monarch.

When the king of Pegu walks abroad, four white Elephants, adorned with precious stones and ornaments of gold, march before him; and when he gives audience, these four Elephants are presented to him, who do him reverence by raising their

trunks, opening their mouths, making three distinct cries, and then kneeling. This ended, they are led back to their stable, and there each of them is fed in large golden vessels. They are twice a day washed with water taken from a silver vessel. During the time of their being dressed in this manner, they are under a canopy, supported by eight domestics, in order to defend them from the heat of the sun. In going to the vessels which contain their food and water, they are preceded by three trumpets, and march with great majesty.

Such are the accounts, collected through a pretty wide range of authorities, which we have been enabled to give, of the disposition and manners of this useful and most intelligent of all animals. These may, perhaps, in a few instances, have been somewhat exaggerated by the writers, and must consequently be received with some degree of limitation ; yet we have had so many surprising instances of their sagacity, given to us on undoubted authority, that, however wonderful these may seem, it would not be just entirely to discredit any of them, without direct proof of their untruth. The authorities for the whole are such as have been received by different respectable and observing men, who, with both the powers and ability of enquiring into them, seem to have entertained no doubts whatever of their validity.

Our account of this wonderful animal cannot be better closed than with the following expressive lines, finely descriptive of his native state :

Peaceful beneath primeval trees, that cast
Their ample shade o'er Niger's yellow stream.

And where the Ganges rolls his sacred wave,
 Or mid the central depth of black'ning woods,
 High rais'd in solemn theatre around,
 Leans the huge Elephant : wisest of brutes !
 O truly wise ! with gentle might endow'd,
 Though powerful, not destructive ! Here he sees,
 Revolving ages sweep the changeful earth,
 And empires rise and fall ; regardless he
 Of what the never-resting race of men
 Project : thrice happy ! could he scape their guile,
 Who mine, from cruel avarice, his steps ;
 Or with his tow'ry grandeur swell their state,
 The pride of kings ! Or else his strength pervert,
 And bid him rage amid the mortal fray,
 Astonish'd at the madness of mankind.

PLATYPUS.

THE only animal at present known as belonging to this very extraordinary genus was, not long ago, discovered in New Holland. Sir Joseph Banks had in his possession two specimens, which were sent over by Governor Hunter, and only one or two others have as yet arrived in this kingdom.

The Platypus has two grinders on each side, both in the upper and lower jaw. In the place of front teeth it has a process resembling the bill of a Duck. The feet are webbed.

THE DUCK-BILLED PLATYPUS.*

The mouth of this very singular creature exhibits so much the resemblance of the beak of some of

* SYNONYMS.—Platypus Anatinus. Duck-billed Platypus. *Shaw*.
 —Ornithorhynchus paradoxus. *Home*. *Blumenbach*. — *Shaw's Gen. Zool.* pl. 66. 67.

the broad-billed species of Ducks, that it is not without minute and rigid examination, that we can persuade ourselves of its being the real beak or snout of a quadruped.

The length of the animal, from the tip of the beak to the end of the tail, is thirteen inches, of which the former occupies an inch and a half. The body is depressed, and has some resemblance to that of an Otter in miniature; it is covered with a very thick, soft fur, of a moderately dark brown above, and whitish beneath. The head is rather small: the tail flat, furry like the body, and obtuse. The legs are very short, terminating in a broad web, which on the fore-feet extends to a considerable distance beyond the claws: on the fore-feet are five claws, straight, strong, and sharp-pointed: on the hind-feet are six curved ones; the interior of which is seated much higher than the rest, and resembles a strong sharp spur.*

The specimens of this animal, hitherto sent to Europe, have been deprived of their internal parts, and are for the most part very ill preserved. Mr. Home examined one belonging to Sir Joseph Banks, which had been kept in spirits, and was tolerably perfect. He discovered that although the beak, when cursorily examined, had so great a resemblance to that of the Duck, as to induce a belief that it was calculated for exactly the same purposes: yet when all its parts were carefully reviewed, he found that it differed in a variety of circumstances. This it

* Shaw's Zool. i. 232.

appears is not the animal's mouth, but is merely a part projecting beyond, and added to it.

The cavity of the mouth is similar to that of other quadrupeds, and has two grinders on each side, both in the upper and under jaw : but instead of front-teeth, the nasal and palate bones are continued forwards, lengthening the anterior nostrils, and forming the upper part of the beak ; and the two portions of the lower jaw, instead of terminating, as in other quadrupeds, are also continued forwards, forming the under portion of the beak. This structure differs materially from the bills of all birds, since in them the cavities of the nostrils do not extend beyond the root of the bill ; and in the lower portions, which correspond with the under jaw of quadrupeds, the edges are hard, to answer the purpose of teeth, and in the middle is an hollow space to receive the tongue ; but in the Platypus the two thin plates of bone are in the centre, and the parts that surround them are composed of skin and membrane, in which, probably, a muscular structure is included.

The teeth have no fangs that sink into the jaw, as in most other quadrupeds, but are embedded in the gums. They have also only lateral alveolar processes, from the outer and inner edges of the jaw, to secure them in their places, and no transverse ones between the teeth.

The tongue is scarcely half an inch long, and the moveable part is not more than a quarter of an inch. It can be drawn entirely into the mouth,

and, when extended, reaches about a quarter of an inch into the beak.

The organ of smell differs in some measure from that both of quadrupeds and birds. The external opening is placed near the end of the beak, from whence two cavities, extending all the way along the beak, are superadded to this organ.

The beak itself is covered with a smooth black skin, that extends some way beyond the bones, both in front and laterally, and forms a moveable lip, so strong, that when dried or hardened in spirit, it seems to be quite rigid, but when moistened is very pliant, and is probably a muscular structure. The under portion of the beak has a lip equally broad with the upper: this has a serrated edge, (wanting in the upper mandible), but the serræ are mostly confined to the soft part.

A curious transverse fold of the external black smooth skin, by which the beak is covered, projects all round, exactly at that part where it has its origin. The apparent use of this is to prevent the beak from being pushed farther into the soft mud, in which prey may be concealed, than to this part.

The nerves that supply the beak, are much allied to those of birds; and the cavity of the skull has a greater resemblance to that of a Duck than a quadruped.

The orifice of the eye is uncommonly small for the size of the animal; and the external opening of the ear is simply an orifice, and so minute as not to be discovered without difficulty.

From the form of this animal we are led to suppose it a resident in watery situations; that it burrows in the banks of rivers, or under ground, and that its food consists of aquatic plants and animals. But the structure of its beak is such as not to enable it to lay firm hold of its prey: when, however, the two marginal lips are brought together, the animal has most probably a considerable power of suction; and in this manner may draw food into its mouth.*

THE MANATI TRIBE.

THE Manati are destitute of fore-teeth in both jaws: but from the upper jaw proceed two great tusks, which point downwards; the grinders have wrinkled surfaces. The lips are doubled; and the hind feet are at the extremity of the body, and unite into a kind of fin.

The Manati are entirely marine, feeding on seaweeds, corallines, and shell-fish, and are not carnivorous. Their elongated body, declining in bulk from the head gradually to the tail, and their short, fin-like feet, give them some alliance to the fishy tribes: they may indeed be considered as forming one of those steps in nature, by which we are conducted from one great division of the animal world to the other. Though the general residence of all the species is in the sea, yet some of them are perfectly amphibious, and live with equal ease on the land as in the water.

* Phil. Tran. for 1800, p. 432.

THE ARCTIC WALRUS.*

These animals, which are sometimes seen eighteen feet long, and ten or twelve in circumference, are inhabitants of the coasts of the Magdalene Islands, in the Gulph of St. Laurence. They are usually seen in vast multitudes floating on ice, preferring that for their general residence. In their upper-jaw they have two long tusks bending downwards, which they make use of to ascend the islands of ice, by fastening them in the cracks, and by that means draw up their bodies. These seem also of farther use to scrape shell-fish and other prey out of the sand, and from the rocks. They are also their weapons of defence against the White Bear on the land and ice, and against the Sword-fish, and several species of Shark, at sea.†

The Arctic Walrus is inelegant in its form, having a small head, short neck, thick body, and short legs. The lips are very thick, and the upper one is cleft into two large rounded lobes, on which are several thick and semi-transparent bristles. The eyes are small; and, instead of external ears, there are only two small circular orifices. The skin is thick, and scattered over with short brownish hair. On each foot are five toes, connected by webs: the hind-feet are considerably broader than the others; and the tail is extremely short.

They are harmless animals unless when attacked

* SYNONYMS.—*Trichechus Rosmarus*. *Linn.*—Sea-horse. *Ellis.*—Walross. *Marten.*—Morse, or Walrus. *Smell. Buff.*—Morse. *Buffon.*—*Rosmarus*. *Johnston.*—Arctic Walrus. *Penn.*—*Shaw's Gen. Zool.* pl. 68, 69.—*Bew. Quad.* 467. † *Crantz*, i. 127.

or provoked, in which case they become furious, and extremely vindictive. When surprized on the ice, the females first provide for the safety of their young, by flinging them into the sea, and themselves after them : having carried these to a secure distance, they will return to the place again with great rage to revenge any injury they have received. They will sometimes attempt to fasten their teeth on the boats, in order to sink them, or rise in great numbers under them with the intention of over-setting them, at the same time shewing all the marks of rage, by roaring in a dreadful manner, and gnashing their teeth with great violence. They are strongly attached to each other, and will make every effort in their power, even to death, to set at liberty their harpooned companions. A wounded Walrus has been known to sink to the bottom, rise suddenly again, and bring up with it multitudes of others, who have united in an attack on the boat from which the insult came.*

These animals always visit the Magdalene Islands early in the spring. These seem particularly adapted to their wants, abounding in large shell-fish, and affording them a convenient landing. Immediately on their arrival they crawl up the sloping rocks of the coast in great numbers, and frequently remain for many days, when the weather is fair, without food ; but on the first appearance of rain they immediately retreat to the water with great precipitation. Very soon after their arrival they bring forth

* Penn. Arct. Zool. i. 147.

their young. They are suffered to come on shore, and amuse themselves for a considerable time, till they acquire some degree of boldness; for, at first landing, they are so exceedingly timid as to suffer no one to approach them. In a few weeks they assemble in great numbers; formerly, when undisturbed by the Americans, to the amount of 7 or 8000.

At a proper time the fishermen, taking advantage of a sea wind to prevent the animals from smelling them, and with the assistance of dogs, endeavour in the night to separate those that are farthest advanced from those next the water, driving them different ways. This they call making a cut, and it is generally esteemed a most dangerous process, since it is impossible to drive them in any particular direction, and often very difficult to avoid them: the darkness of the night, however, deprives them of every direction to the water, so that they stray about, and are killed at leisure, those nearest the shore becoming the first victims. In this manner fifteen or sixteen hundred have been killed at one cut. They are then skinned, and the coat of fat that always surrounds them is taken off, and dissolved into oil. The skin is cut into slices of two or three inches wide, and exported to America for carriage-traces, and to England for glue.*

They sometimes attack small boats, merely through wantonness, and not only put the people in confusion, but frequently subject them to great

danger. In the year 1766 some of the sloops' crew, who annually sail to the north, to trade with the Esquimaux, were attacked by a great number of these animals; and, notwithstanding their utmost endeavours to keep them off, one, more daring than the rest, though a small one, got in over the stern, and after sitting and looking at the people some time, he again plunged into the water to his companions. At that instant, another of an enormous size was getting in over the bow; and every other means proving ineffectual to prevent such an unwelcome visit, the bowman took up a gun, loaded with goose-shot, put the muzzle into the animal's mouth, and shot him dead: he immediately sunk, and was followed by all his companions. The people then made the best of their way to the vessel, and just arrived before the creatures were ready to make their second attack, which, in all probability, would have been infinitely worse than the first, as they seemed highly enraged at the loss of their companion.*

The following is Captain Cook's description of a herd of Walruses, that were seen floating on a mass of ice off the northern part of the continent of America.

“ They lie, in herds of many hundreds, upon the ice; huddling over one another like swine; and roar or bray very loud; so that in the night, or in foggy weather, they gave us notice of the vicinity of the ice, before we could see it. We never

* Hearne, 289.

found the whole herd asleep, some being always upon the watch. These, on the approach of the boat, would wake those next to them; and the alarm being thus gradually communicated, the whole herd would be awake presently. But they were seldom in a hurry to get away, till after they had been once fired at. They then would tumble over one another into the sea in the utmost confusion. And if we did not, at the first discharge, kill those we fired at, we generally lost them, though mortally wounded. They did not appear to us to be that dangerous animal which some authors have described; not even when attacked. They are rather more so in appearance than in reality. Vast numbers of them would follow and come close up to the boats. But the flash of a musket in the pan, or even the bare pointing of one at them, would send them down in an instant. The female will defend the young to the very last, and at the expence of her own life, whether in the water, or upon the ice. Nor will the young one quit the dam, though she be dead; so that if one is killed, the other is certain prey. The dam, when in the water, holds the young one between her forefins.” *

The Greenlanders, when they find a herd of them upon the ice, approach in their boats, and fling their harpoons as the alarmed animals are tumbling themselves along the steeps of the ice into the sea. They seize these opportunities of

* Cook's last Voyage, iii. 42, 43.

killing them, as the animals always distend their skins, to roll with greater safety and lightness, and, therefore, are easier to hit than when they are at rest on the shore, and the skin flaccid.*

When playing about in the water, they have been frequently observed to draw Sea-fowl beneath the surface, with their long tusks, and after a while throw them up in the air, but they live entirely upon marine plants and Shell-fish, and never eat these.†

This animal appears to have been known to king Alfred so early as the year 890, from the information of Othier, the Norwegian, who made a voyage beyond the North Cape of Norway, “for the more commoditie, (says Hakluyt) of fishing of *Horse-whales*, which have in their teeth bones of great price and excellence: whereof he brought some on his returne unto the king.” Hakluyt farther informs us, that at that period the natives of the northern coasts made cables, some of them sixty ells in length, of the Horse-whales and Seals’-skins.‡

The tusks of the Walrus, which weigh from ten to thirty pounds each, are used as an inferior sort of ivory; but the animals are principally killed for the sake of their oil. A very strong and elastic leather, it is said, may be prepared from the skin. They frequently weigh from 1500 to 2000 pounds, and produce from one to two barrels of oil each.§

* Martens Spitzbergen, in Harris. † Crantz, i. 127. ‡ Hakluyt, i. 5. § Phil. Tran. vol. 65. p. 249.

THE WHALE-TAILED MANATI.*

The Whale-tailed Manati live entirely in the water, and in other respects they so nearly approach the Whale tribe, as scarcely to deserve the name of Quadrupeds. What are denominated feet are little more than pectoral fins, which serve only for swimming.

They inhabit the seas between America and Kamtschatka, but never appear off the coast of Kamtschatka, unless driven there by a tempest.

They are always found in herds: the old ones keep behind, and drive the young before them; and some go along the sides, by way of protection. —On the rising of the tide they approach the shores, and are so tame as to suffer themselves to be handled. They live in families near one another, each consisting of a male and female, a half-grown young one, and a new-born cub: and these families often unite so as to form vast droves.†

In their manners they are peaceable and harmless, and bear the strongest attachment for each other. When one is hooked, the whole herd will attempt its rescue; some will strive to upset the boat by going beneath it; others will fling themselves on the rope of the hook, and press it down in order to break it; and others again will make the utmost efforts to wrench the instrument out of the body of their wounded companion.

* SYNONYMS.—*Trichechus Borealis*. *Linn.*—*Morskuia Korowa*, the Russian name, *Steller.*—Whale-tailed Manati. *Penn.*

† *Penn. Quad.* ii. 537.

In their conjugal affection, if such it may be termed, they are most exemplary: a male, after having used all his endeavours to release his mate, which had been struck, pursued her to the very edge of the water; and no blows that were given could force him away. As long as the deceased female continued in the water, he persisted in his attendance; and even for three days after she was drawn on shore, cut up, and carried away, was he observed to remain in expectation of her return.

They are taken by a great hook fastened to a long rope. The strongest man in the boat strikes the instrument into the nearest animal; which being done, twenty or thirty people on shore seize the rope, and with the greatest difficulty drag it on shore. The poor creature makes the strongest resistance, assisted by its faithful companions. It will cling with its feet to the rocks till it leaves the skin behind; and often great fragments fly off before it can be landed. "I once saw (says Dr. Grieve,) some of the fishermen cut off the flesh from one of them while it was alive, which all the while struck the water with such force with its paws as entirely to tear off the skin."*

Their size is enormous, some of them being twenty-eight feet long, and weighing so much as eight thousand pounds.

They are exceedingly voracious, and feed on the different species of Fuci that grow in the sea, and are driven to the shore. When filled they fall asleep

* Grieve, 134. Penn. Arct. Zool. i. 177.

on their backs. During their meals they are so intent on their food, that any one may go among them, and chuse which he likes best. Their back and sides are generally above water.*

The head is small: the lips are double; and, near the junction of the two jaws, the mouth is filled with white tubular bristles, which serve to prevent the food from running out with the water, and also in the place of cutting-teeth, to divide the strong roots of the sea-plants. Two flat white bones, with undulated surfaces, one in each jaw, serve instead of grinders.

The eyes are extremely small, as are also the orifices for the ears. The tail is thick and strong, ending in a black, stiff fin. The skin is thick, hard, and black, and full of inequalities like the bark of oak; beneath it is a thick blubber.

The flesh is coarser than beef, and does not soon putrify. The young ones taste like veal.†

THE ROUND-TAILED MANATI.‡

The Round-tailed Manati are about six feet long, and three or four in circumference, though sometimes much more. They have a short thick neck, small eyes, and thick lips; are very thick about the shoulders, and taper gradually to the tail, which is broad and round. The feet are placed at the shoulders, and near the base of each foot, in the female,

* Penn. Quad. ii. 507.

† Grieve, 135.

‡ SYNONYMS.—*Trichechus Manatus*. Linn.—*Lamantin*. Buffon.
Adanson—Sea Cow. *Adanson*.—Round-tailed Manati. Penn.—*Shaw's*
Gen. Zool. pl. 67.

there is a small teat. The skin is thick and hard, and has a few hairs scattered over it.

They are found in the African rivers, from Senegal to the Cape; and in abundance on some of the Eastern coasts of South America. In the river of Amazons they are often seen near a thousand leagues from its mouth. They seem much more partial to fresh or only brackish water, than to the sea.

At times they are observed, in their frolicsome moods, to leap to great heights out of the water; and they delight in shallow water near low land, and in places secure from surges, where the tides run gently. The marine plants seem to constitute their principal food. They are taken by harpoons. The Indians go out in small canoes with the utmost silence, for the animal is very quick of hearing, carrying a harpoon, fastened to a strong cord of several fathoms in length. When struck, the Manati swims off with the instrument of death in his body, and, when spent with pain and fatigue, again rises to the surface, and is taken. The affection of the parent for her young is as conspicuous in this as in the last species: if a young one is with its mother when she is struck, careless of her own sufferings, she affectionately takes it, if not too large, under her fins or feet, to protect it from her own fate. But how cruelly do mankind reward them for these tender offices: the young, which will never forsake its dam, even in the greatest distress, is looked upon in no other light by these men, than as likewise their certain prey!*

* Penn. Quad. ii. 541.

We are told that this species of Manati is often tamed by the native inhabitants of America, and that it delights in music. A governor of Nicaragua is said to have kept one of them in a lake near his house, for six-and-twenty years. He was usually fed with bread, and fragments of victuals, as often as people feed fish in a pond. He became so familiar, that in tameness and docility he nearly equalled what has been said by the ancients of their Dolphin. The domestics gave him the name of Matto, and when any of them came at the regular hour to feed him, and called him by his name, he would come immediately to the shore, take victuals out of their hands, and, though contrary to what is generally said of this animal, even crawl up to the house to receive them. Here he would play with the servants and children : and the writer of the account says that he has even been known to carry persons across the lake on his back.* From circumstances similar to these, some authors have imagined this to be the Dolphin of the ancients : and others believe that what has been written respecting Mermaids and Syrens, should be referred to this animal.

The flesh and fat of these animals are very white, sweet, and salubrious. The young are extremely tender and delicious. The thicker parts of the skin, cut into slips, and dried, become very tough, and serve the purpose of whips. The thinner parts, which are more pliant, serve the Indians as thongs for fastening the sides of their canoes.†

* Parsons (from Peter Martyr), in *Phil. Tran.* vol. 47. p. 109.

† *Penn. Quad.* ii. 54r.

SEA-APE MANATI.*

This animal, though placed among the Manati by Mr. Pennant, seems rather to belong to the next order, and to be a Seal.† The following is Dr. Grieve's account of it.—Mr. Steller saw, off the coast of America, a marine animal which he calls a Sca-ape. The head appeared like that of a Dog, with sharp and upright ears, large eyes, and with both lips bearded: the body round and conoid, the thickest part near the head: the tail forked: the body covered with thick hair; and apparently destitute of feet.

It was extremely wanton, and played a number of Monkey-tricks. It sometimes swam on one, sometimes on the other side of the ship, and gazed at it with great admiration. It would often stand erect for a considerable time, with one third of its body above the water; then dart beneath the ship and appear on the other side, and repeat the same thirty times together. It would frequently rise with a sea plant in its mouth, not unlike the Bottle-gourd, toss it up and catch it again, playing with it a thousand antics.‡

From this animal, much more probably than from the Round-tailed Manati, the fable of the Syrens might arise.

* Sea-ape. *Grieve*. † Linn. Gmel, i, 62. n. ‡ *Grieve*, 136.
Penn. Arct. Zool,

 THE SEALS.*

THE Seals seem to bear a considerable alliance to the Manati, most of them having the same kind of elongated body, and fin-like feet. They also inhabit the waters, where they swim with great ease. In summer they live much on the shores, but in winter confine themselves almost entirely to the sea. They are a dirty and inquisitive race of animals; and though courageous and quarrelsome among themselves, are capable of being rendered tame. They are polygamous, one male having many females. Their flesh is said to be juicy and delicate eating; and their fat and hides of use, both in an economical and commercial view. They walk very awkwardly, on account of the fore paws being set considerably backwards, and the hind ones being united. Their food is fish and other marine productions.*

In the upper jaw they have six parallel, and sharp-pointed fore-teeth, the exterior of which are the largest; and in the lower jaw four, that are parallel, distinct, and equal. There is one canine-tooth in each jaw; and five grinders above, and six below, all of which have three knobs or points.†

* The Linnæan order *FERÆ* commences with this tribe.

† Linn. Gmel. i. 62.

‡ Ib. i. 62.

THE COMMON SEAL.*

The Common Seal, or Sea Calf, is found on most of the rocky shores of Great Britain and Ireland, especially on the Northern coasts. They inhabit all the European seas, even to the extreme North; are found far within the arctic circle in the seas both of Europe and Asia, and are even continued to those of Kamtschatka. They prey on fish, and are both excellent swimmers and ready divers.†

Their usual length is five or six feet. The head is large and round; the neck small and short; and on each side of the mouth are several strong bristles. From the shoulders the body tapers to the tail. The eyes are large; there are no external ears; and the tongue is cleft or forked at the end. The legs are very short, and the hinder ones placed so backward, as to be but of little use, except in swimming. The feet are all webbed. The tail is very short. They vary in colour, their short thick-set hair being sometimes grey, sometimes brown or blackish, and sometimes even spotted with white or yellow.‡

Their dens or habitations are in hollow rocks or caverns near the sea, but out of the reach of the tide: in the summer they will come out of the water to bask or sleep in the sun on the large stones or shivers of rocks; and this is the opportunity that our countrymen take of shooting them. If they chance to escape, they hasten to the water, flinging stones

* SYNONYMS.—*Phoca vitulina*. Linn.—Seal, or Sea calf. Var.—Phoque. Buffon.—Shaw's *Gen. Zool.* pl. 70.—Bew. *Quad.* 469.

† Penn. Brit. Zool, i, 139.

‡ Shaw, i. 251.

and dirt behind them as they scramble along ; at the same time expressing their fears by piteous moans. But if they are overtaken they make a vigorous defence with their feet and teeth.*

Dr. Borlase says, that "they are very swift in their proper depth of water, dive like a shot, and in a trice rise at fifty yards distance. A person of the parish of Sennan, in Cornwall, saw, not long since, a Seal in pursuit of a Mullet (that strong and swift fish): the Seal turned it to and fro in deep water, as a Greyhound does a Hare: the Mullet, at last, found it had no way to escape but by running into shoal water ; the Seal pursued, and the former, to get more surely out of danger, threw itself on its side, by which means it darted into shallower water than it could have swam in with the depth of its paunch and fins, and thus escaped."†

Their head in swimming is always above water, more so than that of a Dog. They sleep on the rocks, and are extremely watchful, never sleeping long without moving ; seldom longer than a minute ; they then raise their heads, and if they see or hear nothing more than ordinary, again lie down, and so on, raising their heads a little and inclining them alternately in about a minute's time. Nature seems to have given them this precaution, as being unprovided with auricles or external ears ; and consequently not hearing very quick, nor from any great distance.‡

* Penn. Brit. Zool. i. 141.
Zool. i. 144.

† Brit. Zool. i. 143.

‡ Brit.

Seals, if taken young, are capable of being tamed; they will follow their master like a Dog, and come to him when called by the name that is given to them. Some years ago a young Seal was thus domesticated:—It was taken at a little distance from the sea, and was generally kept in a vessel full of salt water; but sometimes was allowed to crawl about the house, and even to approach the fire. Its natural food was regularly procured for it, and it was taken to the sea every day, and thrown in from a boat. It used to swim after the boat, and always allowed itself to be taken back. It lived thus for several weeks; and probably would have lived much longer had it not been sometimes too roughly used. A Seal that was exhibited in London, in the year 1750, answered to the call of his keeper, and attended to whatever he was commanded to do. He would take food from the man's hand, crawl out of the water, and, when ordered, stretch himself out at full length on the ground. He would thrust out his neck and appear to kiss the keeper, as often as the man pleased; and, when he was directed, would again return into the water.*

The Seals are taken for their skins and oil. The time when this is done is generally in October, or the beginning of November. The hunters, provided with torches and bludgeons; enter the mouths of their caverns about midnight, and row in as far as they can: they then land, and, being properly

* Parsons, Phil. Tran. vol 47, p. 113.

stationed, begin by making a great noise, which alarms the animals, and brings them down from all parts in a confused hurry, uttering frightful shrieks and cries. In this hazardous employment much care is necessary on the part of the hunters to avoid the throng, which presses down upon them with great impetuosity, and bears away every thing that opposes its progress; but when the first crowd has passed, they kill great numbers of young ones, which generally straggle behind, by striking them on the nose, where a very slight blow soon destroys them.*

To the inhabitants of Greenland the different species of seals are indispensably necessary towards their existence. The sea is to them what corn-fields are to us, and the Seal-fishery is their most copious harvest. The flesh supplies them with their principal, most palatable, and substantial food. The fat furnishes them with oil for their lamps and fires: they use it also with their food; and barter it for other necessities with the factor. They find the fibres of the sinews better for sewing with than thread or silk. Of the skins of the entrails they make their windows, curtains for their tents, and shirts; and part of the bladders they use in fishing, as buoys or floâts to their harpoons. Of the bones they formerly made all those instruments and working tools that are now supplied to them by the introduction of iron. The blood is not lost, for they boil that, with other

* Penn. Brit. Zool. i. 142. and Pontoppidan, ii. 126.

ingredients, as soup. Of the skins they form cloathing for their own bodies, coverings for their beds, houses, and boats, and thongs and straps of every description.

To be able to take Seals is the ultimatum of the Greenlander's desires and pride; and to this labour, which is in truth an arduous one, they are trained from their childhood. By this they support themselves, by this they render themselves agreeable to each other, and become beneficial members of the community.*

Seals, we are told, delight in thunder-storms, and during these times, sit on the rocks and contemplate, with seeming delight, the convulsions of the elements: in this respect differing widely from the terrestrial quadrupeds, which are extremely terrified on these occasions.

The voice of a full-grown Seal is hoarse, and not unlike the barking of a Dog: that of the young resembles in some measure the mewling of a Kitten.

The female seldom brings forth more than two young ones at a birth, which she sits on her hind legs to suckle. In about a fortnight she takes them out to sea and instructs them in swimming, and in seeking their food. When the young are fatigued, the parent is said to carry them on her back.† The Seal-hunters in Caithness assured Mr. Pennant that their growth was so rapid, that in nine tides (about fifty-four hours) after their birth,

* Crantz, i. 130.

† Shaw, i. 253.

they become as active as their parents: and it is generally understood that a Seal, six weeks old, will sometimes yield above eight gallons of oil; a quantity much greater than that afforded by some of the emaciated dams.*

They eat their prey beneath the water, and when they are devouring any oily fish, the place may be easily remarked by the smoothness of the waves immediately above.†

The flesh of Seals formerly found a place at the tables of the great in our country; as appears from the bill of fare of that vast feast which Archbishop Nevill, gave in the reign of Edward the Fourth.‡

The Icelanders have a strange superstition respecting these animals: they believe them to resemble the human species more than any other, and that they are the offspring of *Pharoah* and his host, who were converted into Seals, when they were overwhelmed in the *Red Sea*.

THE URSINE SEAL.*

The Ursine Seals are inhabitants of the islands in the neighbourhood of Kamtschatka. Here they are seen from June to September, during which time they breed and educate their young. They are said then to quit their stations, and return, some to the Asiatic, and some to the American

* Penn. Brit. Zool. i. 142, 143. † Ibid. i. 139. ‡ Ibid. i. 141

§ SYNONYMS.—*Phoca Ursina*. Linn.—*Sea Cat*. Grieve.—*Ursine Seal*, Penn.—*Sharw's Gen. Zool.* pl. 72.

shore, but generally keeping between lat. 50 and 56.

The males are about eight feet in length, but the females are much smaller. Their bodies are thick, decreasing somewhat towards the tail. The nose projects like that of a Pug-dog: the teeth lock into each other when the mouth is closed: the tongue is cleft, and the eyes are large and prominent. The fore-legs are about two feet long; and the feet are formed with toes, which are covered with a naked skin, and have only the rudiments of nails, having somewhat the appearance of a Turtle's fin. The hind-legs are rather shorter, but so fixed behind, that the animal can occasionally rub his head with them: these have five toes, separated by a web. The general colour of the hair is black, but that of the old ones is tipped with grey; and the females are ash-coloured.

The Ursine Seals live in families. Every male is surrounded by a seraglio of from eight to fifty mistresses, which he guards with the utmost jealousy. Each family keeps separate from the others, although they lie by thousands on the shores they inhabit.—Every family, with the unmarried and the young, contains about a hundred and twenty. They also swim in tribes when they take to the sea.

The males shew great affection towards their young, and equal tyranny towards the females. They are fierce in the protection of their offspring; and, should any one attempt to carry off their cub,

they will stand on the defensive, while the female conveys it away in her mouth. Should she happen to drop it, the male instantly quits his enemy, falls on her, and beats her against the stones till he leaves her for dead. As soon as she recovers, she crawls to his feet in the most suppliant manner, and washes them with her tears: he, at the same time, brutally insults her misery, stalking about in the most insolent manner. But if the young is entirely carried off, he melts into the greatest affliction, shedding tears, and shewing every mark of the deepest sorrow.

Those animals that, through age or impotence, are deserted by the females, withdraw themselves from society, and grow excessively splenetic, peevish, and quarrelsome; they become very furious, and so attached to their own stations, as to prefer even death to the loss of them. If they perceive another animal approaching them, they are instantly roused from their indolence, snap at the encroacher, and give battle. During the fight, they insensibly intrude on the station of their neighbour, who then joins in the contest; so that at length the civil discord spreads through the whole shore, attended with hideous growls, their note of war.*

Mr. Steller, and his men, in order to try the experiment, wantonly attacked one of these Seals, put out both his eyes, and irritated four or five of his neighbours by throwing stones at them. When these pursued him he ran towards the blind animal,

* Penn. Arct. Zool. i. 168.

who, hearing them approach, fell upon them with the utmost fury. Mr. Steller escaped to an adjoining eminence, from whence he observed the battle, which raged for several hours. The blind Seal attacked, without distinction, both friends and enemies ; till, at length, the whole herd, taking part against him, allowed him no rest, either on shore or in the sea, out of which they more than once dragged him to land, till he was dead.

This is one of the causes of disputes among these irritable creatures : but the most material one is when an attempt is made to seduce any of their mistresses, or a young female of the family : a battle is the sure consequence of the insult. The unhappy vanquished animal instantly loses his whole seraglio, who desert him for the victorious hero.

When only two of them are engaged they rest at intervals, lying down near each other ; then, rising both at once, renew the battle. They fight with their heads erect, and turn them aside to avoid the blows. As long as their strength continues equal, they only use their fore-paws ; but the moment one of them fails, the other seizes him with his teeth, and throws him upon the ground. The wounds they inflict are very deep, and like the cut of a sabre ; and, it is said, that in the month of July scarcely one is to be seen that has not some wound upon him. At the conclusion of an engagement, such as are able throw themselves into the sea to wash off the blood.*

* Grieve's Kamtschatka, 127.

They are very tenacious of life, and will live a fortnight after receiving such wounds as would soon destroy any other animal. "One of them was not killed, (says Frederick Martens) though we had cut off most of his fat ; and, notwithstanding all our blows, would still bite and snap at us. I ran another several times through the body with my sword, which he did not seem in the least to regard ; he, at last, got up, ran swifter than I could, and flung himself from the ice into the sea, where he immediately went to the bottom."* Even after they are skinned, and their blood is very nearly exhausted they still continue to live ; and it is frightful to see them in this condition weltering in their own gore. "One that we killed (a traveller remarks,) was about eight feet long : *after skinning it, and taking out most of the fat*, notwithstanding all the blows it had received on the head and muzzle, it still endeavoured to bite, and even seized a cutlass with nearly as much vigour as if it had not been wounded."† At Bering's island they are killed by first striking out their eyes with stones, and then beating them about the head with clubs : but this is always a work of so much labour, that three men are said to be scarcely able to destroy one with fewer than three hundred strokes. And though sometimes their skull was shattered, their brain crushed, and all their teeth beaten out, yet they would still keep their place, standing upright, and endeavouring to defend themselves.

* Martens Voy. to Spitzbergen, in Harris's Collection, i. 620.

† Recueil des Voyages du Nord, tom. ii. 117.

Besides their notes of war, they have several others. When they lie on the shore, and are diverting themselves, they low like a Cow. After victory they chirp like a Cricket; and, on a defeat, or after receiving a wound, they mew like a Cat.

When they come out of the water, they shake themselves, and smooth their hair with their hind-feet: apply their lips to those of the females, as if to kiss them: lie down and bask in the sun with their hind legs up, which they wag as a Dog does his tail. Sometimes they lie on their back; sometimes roll themselves up into a ball, and thus fall asleep.

They often swim on their back, and so near the surface of the water, as frequently to have their hind-paws quite dry. When they go from the shore into the water, or when they dive, after having breathed, they, in the manner of some other sea animals, whirl themselves round like a wheel. They cut through the waves with great rapidity, frequently swimming at the rate of seven or eight miles an hour.

Their cubs are as sportive as puppies; have mock fights, and tumble one another on the ground. The male parent looks on with a sort of complacency, parts them, licks, and kisses them, and seems to take a greater affection to the victor than to the other.

On Bering's Island these animals were found in such numbers as to cover the whole shore: and travellers were obliged, for their own safety, to leave the sands and level country, and go over the hills and rocky parts. It is, however, remarkable,

that they only frequent that part of the coast which is towards Kamtschatka.

In the beginning of June they retire to the southward, to bring forth their young; and again return about the end of August. They seldom produce more than one, which they nurse for three months.*

The flesh of the old males is rank, but that of the females is said to be as good as lamb, and that of the young ones, when roasted, to eat like sucking-pig. The skins of the young, cut out of the bellies of the females, are in esteem for cloathing, and nearly as valuable as those of the old animals.

THE BOTTLE-NOSED SEAL.†

The male of this species measures from fifteen to twenty feet in length; and is distinguished from the female by a large snout, projecting five or six inches below the end of the upper-jaw: this, when the animal is irritated, it inflates, and thus gives it the appearance of an arched or hooked-nose. Their skin is scattered over with a rust-coloured hair, but their feet, which are short, are nearly black. The hind-feet are so webbed as to appear only like fins. In the upper-jaw there are only four front-teeth, and in the lower-jaw no more than two. They are found in the seas about New Zealand, on the island of Juan Fernandez, and the Falkland islands.

* Grieve, 129. Penn. Arct. Zool.

† SYNONYMS.—*Phoca Leonina*. Linn.—Sea Lion. Anson.—Bottle-nosed Seal. Penn.—Shaw's Gen. Zool. pl. 73.

The fat of these animals is so very considerable, as to lie at least a foot deep betwixt the skin and the flesh; and some of the largest afford as much as will fill a butt. When they are in motion, they appear almost like immense skins filled with oil: the tremulous motion of the blubber being plainly discernible beneath the surface. They have also so much blood, that, if deeply wounded in a dozen places, it will gush out at every one, and spout to a considerable distance. Lord Anson's sailors, to try the experiment, shot one of them, and obtained from it more than two hogsheads of blood.

They seem to divide their time pretty equally betwixt the land and sea; continuing out during the summer, and coming on shore at the commencement of winter, and residing there all that season. When on shore they feed on the grass and verdure which grows on the banks of the fresh-water streams; and when not employed in feeding, they sleep in herds, in the most miry places they can find. Each herd seems to be under the direction of a large male, which the seamen have ludicrously stiled the Bashaw, from his driving off the other males from a number of females which he appropriates to himself. These Bashaws, however, do not arrive at this envied superiority without many bloody and dreadful contests, of which their numerous scars generally bear witness. Their battles are very frequent, and when for the females, always extremely furious. Some of Lord Anson's party observed, one day, on

the island of Juan Fernandez, what they at first took for two animals, of a kind different from any they had before seen : but, on a nearer approach, they proved to be two of these Seals, which had been goring each other with their teeth till both were covered completely over with blood.

They are of a lethargic disposition, and when at rest are not easily disturbed. It is not difficult to kill them, being, in general, from their sluggish and unwieldy motions, incapable either of escaping or resisting. A sailor was, however, one day, carelessly employed in skinning one of the young, when the female, from whom he had taken it, came upon him unperceived, and getting his head into her mouth, tore his skull so dreadfully, that he died in a few days afterwards.

It has been observed, that each herd places at a distance some of the males as centinels, who never fail to give the alarm, if any thing hostile approaches. The noise they make for this purpose is very loud, and may be heard at a considerable distance. Their usual voice is a kind of loud grunting, or sometimes a snorting, like horses in full vigour.

The females produce two young in the winter, which they suckle for some time. These, when first produced, are about the size of a full-grown Common Seal.

Lord Anson's people killed many of them, in the island of Juan Fernandez, for food. They called their flesh beef, to distinguish it from that of the common Seal, which they denominated lamb. The hearts and tongues were excellent

eating, and, as they thought, much to be preferred even to those of the Ox.*

THE LEONINE SEAL.†

The Leonine Seal has a large head and eyes. The nose turns up, somewhat like that of a Pug Dog. The ears are conical and erect; and along the neck of the male runs a mane of stiff curled hair. The whole neck is covered with long waved hair, not unlike that of the Lion; the hair of the other parts of the body is short and reddish: that of the female yellowish. At a certain age they become grey. The feet resemble those of the Ursine Seal. The weight of a large male is about sixteen hundred pounds, and they are frequently from sixteen to eighteen feet long, whilst the females seldom exceed eight.

They are found in great numbers on the Eastern coasts of Kamtschatka. They do not migrate, but only change their place of residence, having winter and summer stations. They live principally among the rocks of the coast, and by their dreadful roaring, are frequently of use during foggy weather, in warning sailors of the danger of approaching in their direction.

If a human creature appears among them they immediately run off: and when disturbed in sleep, they seem seized with horror, sigh deeply in their attempts to escape, fall into the utmost confusion,

* Anson, 172—175.

† SYNONYMS.—*Phoca Jubata*. *Linnaeus*.—Sea-lion. *Cook*. *Forster*.—Leonine Seal. *Penn.*—*Shaw's Gen. Zool.* pl. 74.—*Bew.* *Quad.* 472.

tumble down, and tremble so violently as scarcely to be able to use their limbs. When, however, they are reduced to an extremity, and find it impossible to effect an escape, they become desperate, turn on their assailant with vast noise and fury, and will even put the most valiant to flight.

When they find there is no intention to harm them, they lose their fear of man. Steller, when he was on Bering's Island, lived in a hovel surrounded by them, for six days. They were soon reconciled to him, would observe what he was doing with great calmness, lie down near him, and even suffer him to seize and play with their cubs. They often contest for the possession of females, and he had an opportunity of seeing several of their conflicts. He once was witness to a duel between two males, which lasted three days, and one of them received above a hundred wounds. The Ursine Seals, which were among them, never interfered, but always hastened out of the way of their battles.

They bring forth only one young one at a birth ; and, strange to say, the parents seem to exhibit towards them very little share of affection : they often tread them to death through carelessness, and will suffer them to be killed before them without concern. The cubs are not sportive, like most other young animals, but seem entirely stupified by much sleep. The parents take them into the water, and teach them to swim ; and when they are tired they climb on the back of their dam ; but the male often pushes them off, to habituate them to exercise.

Each male has from two to four females, which he treats with great kindness; and he seems very fond of their caresses. In their actions they seem much allied to the Ursine Seal. The old ones bellow like bulls, and the young bleat like sheep.*

They live on fish, and several of the marine animals. During two of the summer months the old males abstain almost entirely from eating, and indulge in indolence and sleep: swallowing at intervals large stones to keep the stomach distended.† At the end of this time they are excessively emaciated.

The chase of these animals is esteemed by the Kamtschadales of the highest honor. When they find one of them asleep, they approach it against the wind, strike an harpoon, fastened to a long thong, into its breast, and run off with the utmost precipitation; the other end of the thong being fastened to a stake, prevents the animal from running entirely off, and they principally effect his destruction by flinging their lances into him, or shooting him with arrows: when he is exhausted, they venture near enough to kill him with their clubs. When one of them is discovered alone on the rocks, they shoot him with poisoned arrows. Immediately he plunges into the sea, but unable to bear the poignancy of his wounds in the salt-water, swims to shore in the utmost agony. If a good opportunity offers, they transfix him with their lances: if not they leave him to die of the poison.

* Penn. Arct. Zool. i. 172.

† Penn. Quad. ii. 525.

Such is the stupidity of these people that, esteeming it a disgrace to leave any of their game behind, they frequently overload their boats so much as to send both their booty and themselves to the bottom: but they detest the thought of saving themselves at the expence of any part of their prize.

The flesh of the young is said to be pleasant eating, and their fat resembles the suet of mutton, but is as delicious as marrow. The skin is used for the making of straps, shoes and boots.*

THE DOG TRIBE.

ALL the animals belonging to this tribe are carnivorous, very swift, and well adapted for the chase; but, when urged by necessity, are able to live on vegetable food. None of them are able to climb trees. The females produce many young at a litter, and have generally ten teats, four of which are placed on the breast and six on the belly.†

The generic characters of the Dog are these:—He has six cutting-teeth in the upper jaw; those at the sides being longer than the intermediate ones which are lobated: in the under jaw are also six, the lateral ones of which are lobated. He has four canine-teeth, one on each side, both above and below; and six or seven grinders.

* Penn. Arct. Zool. i. 172.

† Kerr. i. 129.

THE COMMON DOG †

To no animal is mankind so much indebted for services and affection as to the Dog : among all the various orders of animal beings, no one has hitherto been found so entirely adapted to our use, and even to our protection, as this. His diligence, his ardour, and his obedience, have been truly observed to be inexhaustible ; and his disposition is so friendly, that, unlike every other animal, he seems to remember only the benefits he receives ; he soon forgets our blows, and instead of discovering resentment while we chastise him, he exposes himself to torture, and even licks the hand from whence it proceeds.

Dogs are found in a wild state in Congo, Lower Ethiopia, and towards the Cape of Good Hope ; in South and North America, New Holland, and several other parts of the world.

There are no less than *twenty-three* varieties of the Dog, among which all our domestic kinds are included : of these the following is an enumeration :—

- | | |
|------------------------|-------------------------------|
| 1. New Holland Dog | 13. Dalmatian, or Spotted Dog |
| 2. Pomeranian Dog | 14. Irish Greyhound |
| *3. Siberian Dog | 15. Common Greyhound |
| 4. Iceland Dog | 16. Italian Greyhound |
| 5. Water Dog | 17. Naked Dog. |
| 6. Great Water Spaniel | *18. Mastiff |
| *7. Newfoundland Dog | *19. Bull Dog |
| 8. King Charles's Dog | 20. Pug Dog |
| 9. Maltese Dog | *21. Terrier |
| *10. Hound | 22. Turnspit |
| *11. Blood Hound | 23. Alco, or Peruvian Dog |
| 12. Pointer | |

† SYNONYMS.—*Canis familiaris*. *Linn.*—Faithful Dog. *Penn.*

* Those marked with an asterisk we shall have occasion particularly to notice.

To dwell at all on the description or particular qualities of this animal, so well known both to learned and unlearned readers, would be unnecessary. Instead therefore of any eulogium on his character or uses, we shall select for their amusement such well authenticated instances of his sagacity, attachment, and perseverance, as have come under our observation.

Mr. Ray, in his Synopsis of Quadrupeds, informs us of a blind beggar who was led through the streets of Rome by a middle-sized Dog. This Dog, besides leading his master in such a manner as to protect him from all danger, learned to distinguish not only the streets, but the houses where he was accustomed to receive alms twice or thrice a week. Whenever the animal came to any one of these streets, with which he was well acquainted, he would not leave it till a call had been made at every house where his master was usually successful in his petitions. When the beggar began to ask alms, the Dog lay down to rest; but the man was no sooner served or refused, than the Dog rose spontaneously, and without either order or sign, proceeded to the other houses where the beggar generally received some gratuity. . “I observed, (says he) not without pleasure and surprize, that when a halfpenny was thrown from a window, such was the sagacity and attention of this Dog, that he went about in quest of it, took it from the ground with his mouth, and put it into the blind man’s hat. Even when bread was thrown down, the

animal would not taste it, unless he received it from the hand of his master.”

Without any other instruction than imitation, a Mastiff, when accidentally shut from a house which his master frequented, uniformly rang the bell for admittance. Dogs can be taught to go to market with money; to repair to a known butcher, and to carry home the meat in safety:—

“There is a Dog, (says Mr. Smellie), at present belonging to a grocer in Edinburgh, who has for some time amused and astonished the people in the neighbourhood. A man who goes through the streets ringing a bell and selling penny pies, happened one day to treat this Dog with a pye. The next time he heard the pyeman’s bell, he ran to him with impetuosity, seized him by the coat, and would not suffer him to pass. The pyeman, who understood what the animal wanted, shewed him a penny, and pointed to his master, who stood at the street-door, and saw what was going on. The Dog immediately supplicated his master by many humble gestures and looks. The master put a penny into the Dog’s mouth, which he instantly delivered to the pyeman, and received his pye. This traffic between the pyeman and the grocer’s Dog has been daily practised for months past, and still continues.”*

In the year 1760, the following incident occurred near Hammersmith:—Whilst a man of the name of Richardson, a Waterman of that place, was

* Philosophy of Natural History.

sleeping in his boat, the vessel broke from her moorings, and was carried by the tide, under a West-country barge. Fortunately for the man his Dog happened to be with him, and the sagacious animal awaked him by pawing his face, and pulling the collar of his coat, at the instant the boat was filling with water: he seized the opportunity, and thus saved himself from otherwise inevitable death.*

A Dog that had been the favorite of an elderly lady, some time after her death, discovered the strongest emotions on the sight of her picture, when taken down to be cleaned. Before this instant he had never been observed to notice the painting. Here was evidently a case either of passive remembrance, or of the involuntary renewal of former impressions.

Another Dog, the property of a gentleman that died, was given to a friend in Yorkshire. Several years afterwards, a brother from the West Indies, paid a short visit at the house where the Dog then was. He was instantly recognized, though an entire stranger, in consequence, most probably, of a strong personal likeness. The Dog fawned upon and followed him with great affection to every place where he went.†

During M. Le Vaillant's travels in Africa, he one day missed a favorite little Bitch that he had taken out with him. After much shouting and firing of guns, in order, if possible, to make her hear where the party was, he directed one of his Hottentots to

* Ann. Reg. iii. 90.

† Percival's Father's Instructions.

mount a horse and return some distance in search of her. In about four hours the man returned with her on his saddle, bringing with him at the same time a chair and a basket which had been unknowingly dropped from one of the waggons. The Bitch was found at the distance of about two leagues, lying in the road, and watching the lost chair and basket : and had the man been unsuccessful in his pursuit, she must unavoidably either have perished with hunger, or fallen a prey to some of the wild beasts, with which these plains abound.*

Mr. C. Hughes, a son of Thespis, had a wig which generally hung on a peg in one of his rooms. He one day lent the wig to a brother player, and some time after called on him. Mr. Hughes had his Dog with him, and the man happened to have the borrowed wig on his head. Mr. Hughes stayed a little while with his friend, but, when he left him, the Dog remained behind : for some time he stood, looking full in the man's face, then making a sudden spring, leaped on his shoulders, seized the wig, and ran off with it as fast as he could ; and, when he reached home, he endeavoured by jumping to hang it up in its usual place.

The same Dog was one afternoon passing through a field in the skirts of Dartmouth, where a washer-woman had hung out her linen to dry : he stopped and surveyed one particular shirt with attention,

* Vol. i. p. 251.

then seizing it, he dragged it away through the dirt to his master, whose shirt it proved to be.*

In December, 1784, a Dog was left by a smuggling vessel near Boomer, on the coast of Northumberland. Finding himself deserted, he began to worry sheep, and did so much damage, that he became the terror of the country for a circuit of above twenty miles. We are assured, that when he caught a sheep, he bit a hole in its right side, and after eating the fat about the kidneys, left it: several of them thus lacerated, were found alive by the shepherds; and being taken proper care of, some of them recovered and afterwards had lambs. From his delicacy in this respect, the destruction he made may in some measure be conceived; as it may be supposed, that the fat of one sheep a day would hardly satisfy his hunger. The farmers were so much alarmed by his depredations, that various means were taken for his destruction. They pursued him with Hounds, Greyhounds, &c. but, when the Dogs came up to him, he laid down on his back, as if supplicating for mercy, and in that position they did not attempt to hurt him. He therefore used to lie quietly till the men approached, when he made off, without being followed by the hounds till they were again excited to the pursuit, which always terminated unsuccessfully. He was one day pursued from Howick to the distance of upwards of thirty miles; but returned thither

* Life of James Lackington.

and killed sheep the same evening. His constant residence during the day, was upon a rock on the Heugh-hill, near Howick, where he had a view of four roads that approached it; and in March, 1785, after many fruitless attempts, he was at last shot there.*

In one part of his journey through North America, Mr. Bartram observed, in an extensive lawn, a troop of horses that were feeding, and under the controul only of a single black dog, similar, he says, in every respect to the Wolf of Florida, except that he was able to bark like a common Dog. He was very careful and industrious in keeping them together; and, if any one strolled from the rest to too great a distance, the Dog would spring up, head the horse, and bring him back to the company. The proprietor of these horses was an Indian, who lived about ten miles from this place; who, from a whim, and for the sake of experiment, trained his Dog from a puppy to this business. He follows his master's horses only, keeping them in a separate company where they range; and when he finds himself hungry, or wants to see his master, in the evening he returns to the town where he lives, but never stays from home at night.†

In South America multitudes of Dogs breed in holes, like Rabbits; when these are found young, they instantly attach themselves to mankind, and never again desert their masters to rejoin the society of wild Dogs, from which they sprang. These

* Bew. Quad. 305

† Travels in North America.

Dogs have the appearance of the Greyhound, carry their ears erect, are very vigilant, and excellent in the chase.*

We have two instances recorded of the Dog being able to sustain hunger for a length of time almost unparalleled among all animals, except such as become torpid during the cold seasons.

A Danish bitch, ready to whelp, was undesignedly shut up in a chamber of a country house in France, while the family was at Paris. At the end of forty-one days, the poor creature was found alive, lying on a bed, but so reduced that she could not stand. No remains of her puppies were found; so that, driven by dire necessity, it seems that she had devoured them for her own support; and it is not improbable that she might also, while it lasted, feed on her own milk. She had torn, and probably eaten, part of a quilt, and of the wool in it, which she had tumbled about. Food was given to her, and, by degrees, she recovered.

Another bitch remained six weeks without eating any thing, except the straw of a chair, which was in the place where she was confined: she had also drank some water. She lived long after.†

The flesh of Dogs is used as food by the natives of the South-Sea islands, who consider it as a great delicacy: those Dogs intended to be eaten are not, however, suffered to feed at large, but are fattened with farinaceous diet.‡ The Negroes also of the

* Pennant, who quotes Narr. of distresses of Isaac Morris, &c. belonging to the Wager Store-ship of Anson's Squadron, p. 27.

† Martyn, ii. 351.

‡ Church.

coast of Guinea are so partial to these animals as food, that they frequently give considerable prices to obtain them : a large Sheep for a Dog was formerly, and probably is now, a common article of exchange. They esteemed Dog's flesh as preferable to that of cattle ; and to dine of it was the most desirable treat that could be given them.*

The *Siberian Dog*,† which is not uncommon in any of the climates about the Arctic Circle, is used in Kamtschatka for drawing sledges over the frozen snow. These sledges generally carry only a single person, who sits sideways. The number of Dogs usually employed is five ; four of them yoked two and two, and the other acting as leader.‡ The reins are fastened, not to the head, but to the collar ; and the driver has, therefore, to depend principally on their obedience to his voice. Great care and attention are consequently necessary in training the leader, which, if he is steady and docile, becomes very valuable ; the sum of forty roubles (or ten pounds) being no uncommon price for one of them.

The cry of *tagtag, tagtag*, turns him to the right, and *kougha, kougha*, to the left : the intelligent animal immediately understands the words, and gives to the rest the example of obedience : *ah, ah*, stops them, and *ha*, makes them set off.

The charioteer carries in his hand a crooked-

* Bosman, 229, † Greenland Dog. *Bew. Quad.* 303.

‡ In carrying baggage, or heavy burthens, the number of Dogs employed is seldom less than ten.

stick, which answers the purpose both of whip and reins. Iron-rings are suspended at one end of this stick, both by way of ornament, and to encourage the Dogs by their noise, for they are frequently jingled for that purpose. If the Dogs are well trained, it is not necessary for the rider to exercise his voice; if he strikes the ice with his stick, they will go to the left: if he strikes the legs of the sledge they will go to the right; and when he wishes them to stop, he has only to place the stick between the snow and the front of the sledge. When they are inattentive to their duty, the charioteer often chastizes them, by throwing it at them. The dexterity of the riders, in picking this stick up again, is very remarkable, and is the most difficult manœuvre in this exercise: nor is it, indeed, surprising that they should be skilful in a practice in which they are so materially interested; for, the moment the Dogs find that the driver has lost his stick, unless the leader is both steady and resolute, they set off at full speed, and never stop till either their strength is exhausted, or till the carriage is overturned and dashed to pieces, or hurried down a precipice, when all are buried in the snow.

The manner in which they are generally treated, seems but ill calculated for securing their attachment. During the winter they are fed sparingly with putrid fish, and in summer are turned loose, to shift for themselves, till the return of the severe season renders it necessary to the master's interest, that they should be taken again into custody, and brought once more to their state of toil and slavery.

When yoking to the sledge, they utter the most dismal howlings; but, when every thing is prepared, a kind of cheerful yelping succeeds, which ceases the instant they begin their journey.*

These animals have been known to perform, in three days and a half, a journey of near two hundred and seventy miles. And scarcely are Horses more useful to Europeans, than these Dogs are to the inhabitants of the frozen and cheerless regions of the North. When, during the most severe storm, their master cannot see the path, nor even keep his eyes open, they very seldom miss their way: and whenever they do this, they go from one side to the other till, by their smell, they regain it; and when in the midst of a long journey, as it often happens, it is found absolutely impossible to travel any farther, the Dogs, lying round their master, will keep him warm, and defend him from all danger. They also foretell an approaching storm, by stopping and scraping the snow with their feet: in which case it is always adviseable, without delay, to look out for some village, or other place of safety.†

Their skins are used for cloathing.

The *Newfoundland Dogs*† were originally brought from the country of which they bear the name, where their great strength and docility render them extremely useful to the settlers, who employ

* Cooke's last Voyage. Lessep, i. 115.

† Grieve, 107.

† *Bew. Quad.* 326.

them in bringing down wood, on sledges, from the interior parts of the country to the sea-coast. They possess great strength, and are able to draw very considerable weights : four of them yoked to a sledge will trail three hundred-weight of wood, with apparent ease, for several miles. Their docility is as material to their owners as their strength ; for they frequently perform these services without a driver : and, having been relieved of their load at the proper place, return in the same order to the woods, from whence they were dispatched, where their labours are commonly rewarded with a meal of dried fish.*

They are web-footed, and can swim extremely fast, and with great ease.

Their extraordinary sagacity and attachment to their masters, render them, in particular situations, highly valuable.

During a severe storm, in the winter of 1789, a ship, belonging to Newcastle, was lost near Yarmouth ; and a Newfoundland Dog alone escaped to shore, bringing in his mouth the captain's pocket-book. He landed amidst a number of people, several of whom in vain attempted to take it from him. The sagacious animal, as if sensible of the importance of the charge, which, in all probability, was delivered to him by his perishing master, at length leapt fawningly against the breast of a man, who had attracted his notice among the crowd, and delivered the book to him. The Dog

* Church.

immediately returned to the place where he had landed, and watched with great attention for all the things that came from the wrecked vessel, seizing them, and endeavouring to bring them to land.

The following is another instance of their docility, and power of observation :—A gentleman, walking by the side of the River Tyne, observed, on the opposite side, that a child had fallen into the water ; he pointed out the object to his Dog, which immediately jumped in, swam over, and, catching hold of the child with his mouth, landed it safely on the shore.*

The following anecdote, among the immense numbers that have been recorded, affords a proof of the wonderful spirit of the *Hound*, in supporting a continuance of exertion :

“ Many years since, a very large Stag was turned out of Whinfield park, in the county of Westmoreland, and pursued by the Hounds, till, by fatigue or accident, the whole pack was thrown out, except two staunch and favourite Dogs, which continued the chase the greatest part of the day. The Stag returned to the park from whence he set out ; and, as his last effort, leapt the wall, and expired as soon as he had accomplished it. One of the Hounds pursued him to the wall ; but, being unable to get over, laid down, and almost immediately expired : the other was also found at a little distance.

“ The length of the chase is uncertain : but, as

they were seen at Red-kirks, near Annan, in Scotland, distant, by the post-road, about forty-six miles, it is conjectured that the circuitous and uneven course they might be supposed to take, would not be less than *one hundred and twenty miles!*

“To commemorate this fact, the horns of the Stag, which were the largest ever seen in that part of the country, were placed on a tree of a most enormous size, in the park, (afterwards called Hart-horn tree) accompanied with this inscription :

“Hercules kill'd Hart o' Greece ;
And Hart o' Greece kill'd Hercules.” *

The horns have been since removed ; and are now at Julian's-bower, in the same county.

The *Blood-hound* was in great request with our ancestors ; and, as it was remarkable for the fineness of its scent, it was frequently employed in recovering game that had escaped wounded from the hunter. It would follow, with great certainty, the footsteps of a man to a considerable distance : and, in barbarous and uncivilized times, when the thief or murderer had fled, this useful creature would trace him through the thickest and most secret coverts ; nor would it cease its pursuit till it had taken the felon. For this reason there was a law in Scotland, that whoever denied entrance to one of these Dogs, in pursuit of stolen goods, should be deemed an accessory.

* Brice's Gazetteer.—Bew. Quad. 319.

Blood-hounds were formerly used in certain districts lying between England and Scotland, which were much infested by robbers and murderers; and a tax was laid on the inhabitants, for keeping and maintaining a certain number of them. But, as the arm of justice is now extended over every part of the country, and there are no secret recesses where villany can lie concealed, these services are become no longer necessary.

Some few of these Dogs are kept in the southern parts of the kingdom, and are used in pursuit of Deer that have been previously wounded; they are also sometimes employed in discovering Deer-stealers, whom they infallibly trace by the blood that issues from the wounds of their victims.

“ A person of quality, (says Mr. Boyle) to make a trial, whether a young Blood-hound was well instructed, caused one of his servants to walk to a town four miles off, and then to a market town three miles from thence. The Dog, without seeing the man he was to pursue, followed him by the scent to the above-mentioned places, notwithstanding the multitude of market-people that went along the same way, and of travellers that had occasion to cross it; and when the Blood-hound came to the chief market-town, he passed through the streets without taking notice of any of the people there, and left not till he had gone to the house, where the man he sought rested himself, and he found him in an upper room, to the wonder of those that followed him.”*

* Boyle, i. 429.

The Blood-hounds are very tall, most beautifully formed, and superior to every other kind in activity, speed, and sagacity. They seldom bark, except in the chase ; and are usually of a reddish, or brown colour.

Sommerville has finely described their mode of pursuing the nightly spoiler :

Soon the sagacious brute, his curling tail
Flourish'd in air, low bending, plies around
His busy nose, the steaming vapour snuffs
Inquisitive, nor leaves one turf untried,
Till, conscious of the recent stains, his heart
Beats quick ; his snuffling nose, his active tail,
Attest his joy : then with deep-op'ning mouth,
That makes the welkin tremble, he proclaims
Th' audacious felon : foot by foot he marks
His winding way, while all the list'ning crowd
Applaud his reasonings : o'er the wat'ry ford,
Dry sandy heaths, and stony barren hills ;
O'er beaten paths, with men and beast distain'd
Unerring he pursues, till at the cot
Arriv'd, and seizing by his guilty throat
The caitiff vile, redeems the captive prey :
So exquisitely delicate his sense !

The *Mastiffs** are peculiar to this country, where they are principally of use as watch Dogs ; a duty which they discharge not only with great fidelity, but frequently with considerable judgment. Some of them will suffer a stranger to come into the yard they are appointed to guard, and will go peaceably along with him through every part of it, so long as he continues to touch nothing ; but the moment he attempts to touch any of the goods, or endeavours

* *Bew. Quad.* 307.

to leave the place, the animal informs him, first by gentle growling, or, if that is ineffectual, by harsher means, that he must neither do mischief nor go away : and seldom uses violence unless resisted : even in this case he will sometimes seize the person, throw him down, and hold him there for hours, or until relieved, without biting him.*

A most extraordinary instance of memory in a Mastiff is related by M. D'Obsonville. This Dog, which he had brought up in India, from two months old, accompanied himself and a friend from Pondicherry to Benglour, a distance of more than three hundred leagues. " Our journey (he continues,) occupied near three weeks, and we had to traverse plains and mountains, and to ford rivers, and go along several bye-paths. The animal, which had certainly never been in that country before, lost us at Benglour, and immediately returned to Pondicherry. He went directly to the house of M. Beylier, then commandant of artillery, my friend, and with whom I had generally lived. Now the difficulty is, not so much to know how the Dog subsisted on the road, for he was very strong, and able to procure himself food ; but how he should so well have found his way, after an interval of more than a month ! † This was an effort of memory greatly superior to that which the human race is capable of exerting."

The Mastiff is extremely bold and courageous. Stow relates an instance of a contest between three

* Kerr, i. 133.

† D'Obsonville, 74.

of them and a Lion, in the presence of King James the First. “ One of the Dogs, being put into the den, was soon disabled by the Lion, which took him by the head and neck, and dragged him about : another Dog was then let loose, and served in the same manner : but the third, being put in, immediately seized the Lion by the lip, and held him for a considerable time ; till, being severely torn by his claws, the Dog was obliged to quit his hold ; and the Lion, greatly exhausted in the conflict, refused to renew the engagement ; but, taking a sudden leap over the Dogs, fled into the interior part of his den. Two of the Dogs soon died of their wounds : the last survived, and was taken great care of by the king’s son ; who said, *he that had fought with the king of beasts should never after fight with any inferior creature.*”*

This animal, conscious of his superior strength, has been known to chastise, with great propriety, the impertinence of an inferior :—a large Dog of this kind, belonging to the late M. Ridley, Esq. of Heaton, near Newcastle, being frequently molested by a Mongrel, and teased by its continual barking, at last took it up in his mouth by the back, and with great composure dropped it over the quay into the river, without doing any farther injury to an enemy so much beneath his notice.†

The *Bull-dog* ‡ is the fiercest of his kind, and is probably the most courageous creature in the world.

* Stow’s Annals.

† Bew. Quad. 308.

‡ Bew. Quad. 306.

Its valour in attacking a Bull is well known : its fury in seizing, and its invincible obstinacy in maintaining its hold, are truly astonishing. Some years ago, at a Bull-baiting in the North of England, when that barbarous custom was more prevalent than it is at present, a young man, confident in the courage of his Dog, laid some trifling wagers, that he would, at separate times, even cut off all the four feet of his Dog ; and that, after every amputation it would attack the Bull. The cruel and unmanly experiment was tried ; and the Dog continued to seize the Bull with the same eagerness that he did before.*

The *Terrier* † has a most acute smell, and is the natural enemy of the smaller quadrupeds, as Rats, Mice, Weazels, &c. He possesses so much courage as to attack even the Badger, and though sometimes very roughly used, sustains the combat with determined fortitude.

An anecdote related by Mr. Hope, and well authenticated by other persons, shews also that this animal is both capable of resentment when injured, and of great contrivance to accomplish it ; and that it is even possessed of a certain power of combining ideas and communicating them to one of its own species, so as to produce a certain preconcerted consequence. “ A gentleman of Whitmore, in Staffordshire, used to come twice a year to Town, and being fond of exercise, generally performed the

* Goldsmith.† *Erw. Quad.* 315.

journey on horseback, accompanied most part of the way by a faithful little Terrier Dog, which, lest he might lose it in Town, he always left to the care of Mrs. Langford, the landlady at St. Alban's; and on his return he was sure to find his little companion well taken care of. The gentleman calling one time, as usual, for his Dog, Mrs. Langford appeared before him with a woeful countenance:— 'Alas! Sir, your Terrier is lost! Our great Housedog and he had a quarrel, and the poor Terrier was so worried and bit before we could part them, that I thought he could never have got the better of it. He however crawled out of the yard, and no one saw him for almost a week: He then returned, and brought with him another Dog, bigger by far than ours, and they both together fell on our great Dog, and bit him so unmercifully, that he has scarcely since been able to go about the yard, or to eat his meat. Your Dog and his companion then disappeared, and have never since been seen at St. Alban's.' The gentleman heard the story with patience, and endeavoured to reconcile himself to the loss. On his arrival at Whitmore, he found his little Terrier; and on enquiring into circumstances, was informed that he had been at Whitmore and had coaxed away the great Dog, who it seems had, in consequence, followed him to St. Alban's and completely avenged his injury."*

In Japan the Dogs are amazingly numerous; they lie about the streets, and are very troublesome to

* Thoughts in Prose and Verse, 47. quoted in Church.

passengers. In Kaempfer's time the Emperor was so fond of these animals, as to cause huts to be built, and provisions to be found for them in every street; the utmost care was taken of them during sickness, and when they died they were carried to the usual burying places on the tops of mountains. This attention to the species arose merely from the superstitious whim of one of the late Emperors, who happened to be born under the sign of the Dog, one of the Japanese constellations. A poor fellow, who had lost his Dog by death, sweating under his load in climbing the mountain of interment, was overheard by his neighbour cursing, at a dreadful rate, the edict. "Friend, (said his neighbour), you have reason to thank the Gods that the Emperor was not born under the Horse, for what would have then been your load?" If these animals happen to do any injury, none but the public executioner dare presume to punish them; and it is even necessary for him to receive a direct order for the purpose from some of the governors.

It is singular that the race of European Dogs shew as great an antipathy to the American species, as they do to the Wolf. They never meet with them but they exhibit every possible sign of dislike; they will fall on and worry them; whilst the Wolfish breed, with every mark of timidity, puts its tail between its legs, and runs from their rage. This aversion to the Wolf is natural to all genuine Dogs; for it is well known that a Whelp, that has never

* Kaempfer, i. 125.

seen a Wolf, will at first sight tremble and run to its master for protection; an old Dog will naturally attack it.*

The sagacity and attention of the Dog is so great that it is not difficult to teach him to dance, hunt, leap, and exhibit a thousand pleasing dexterities. The mode in which he is taught to point out different cards that are placed near him (which is a common trick) is this:—He is first taught, by repeated trials, to know something by a certain mark, and then to distinguish one ace from another: food is frequently offered to him on a card he is unacquainted with, after which he is sent to search it out from the pack; and after a little experience he never mistakes. Profiting by the discovery of receiving food and caresses as a reward for his care, he soon becomes able to know each particular card, which, when it is called for, he brings with an air of gaiety, and without any confusion; and in reality it is no more surprising to see a Dog distinguish one card from thirty others, than it is to see him distinguish in the street his master's door from those of his neighbours.†

It is recorded of a Dog belonging to a nobleman of the Medici family, that it always attended at its masters table; changed the plates for him, and carried him his wine in a glass placed on a salver, without spilling the smallest drop.

Plutarch relates, that, in the theatre of Marcellus, a Dog was exhibited before the Emperor

* Penn. Arct. Zool. i. 42.

† Goldsmith.

Vespasian, so well instructed as to excel in every kind of dance : he afterwards feigned illness in so natural a manner as to strike the spectators with astonishment ; first shewing symptoms of pain, then falling down as if dead, and suffering himself to be carried about in that state ; and afterwards, at the proper time, seeming to revive as if waking from a profound sleep ; and then sporting about and shewing all the demonstrations of joy.

But of all the educational attainments by which the Dog has been distinguished, that of learning to speak seems the most extraordinary. The French academicians, however, make mention of a Dog in Germany, which would call, in an intelligible manner, for tea, coffee, chocolate, &c. The account is from no less a person than the celebrated Leibnitz, who communicated it to the Royal Academy of France. This Dog was of a middling size, and was the property of a peasant in Saxony. A little boy, the peasant's son, imagined that he perceived in the Dog's voice an indistinct resemblance to certain words, and, therefore, took it into his head to teach him to speak. For this purpose he spared neither time nor pains with his pupil, who was about three years old when this, his learned education commenced ; and at length he made such a progress in language as to be able to articulate so many as thirty words. It appears, however, that he was somewhat of a truant, and did not very willingly exert his talents, being rather pressed into the service of literature ; and it was necessary that the words should be first pronounced to him each

time, which he, as it were, echoed from his preceptor. Leibnitz, however, attests that he himself heard him speak; and the French academicians add, that unless they had received the testimony of so great a man as Leibnitz, they should scarcely have dared to report the circumstance. This wonderful Dog was born at Zeitz in Misnia, in Saxony.*

The sensibility ascribed to the faithful Dog of Ulysses, shews how deeply and justly mankind have been impressed with the noble character of these dutiful and affectionate creatures, even from the most remote periods of antiquity.

He knew his lord, he knew, and strove to meet;
 In vain he strove to crawl and kiss his feet;
 Yet all he could, his tail, his ears, his eyes,
 Salute his master and confess his joys.
 O had you seen him vigorous, bold and young,
 Swift as a Stag, and as a Lion strong:
 Him no fell savage on the plain withstood,
 None scap'd him bosom'd in the gloomy wood.
 His eye how piercing, and his scent how true,
 To wind the vapour in the tainted dew.
 'This Dog, whom fate thus granted to behold
 His lord, when twenty tedious years had roll'd,
 Takes a last look, and having seen him, dies.
 So clos'd for ever, faithful Argus' eyes.
 Then pity touch'd the mighty master's soul,
 And down his cheek a tear unbidden stole.

THE WOLF.†

The Wolf is larger, more strong and muscular than the Dog, and his colour is generally pale grey. These animals are natives of almost all

* Shaw's Gen. Zool. vol. i. p. 289.

† SYNONYMS.—*Canis Lupus*. Linn.—Loup. Buffon.—Shaw's Gen. Zool. pl. 75.—Bew. Quad. 285.

the temperate and cold regions of the globe, and were formerly so numerous in this island that King Edgar cominuted the punishments for certain offences into the acceptance of a number of Wolves' tongues from each criminal; and he converted a very heavy tax on one of the Welsh princes, into an annual tribute of three hundred Wolves' heads. It appears from Hollingshad, that the Wolves were very noxious to the flocks in Scotland, in 1577; nor were they entirely destroyed till about a century afterwards, when the last Wolf fell in Lochaber, by the hand of Sir Ewen Cameron, of Locheil.

Wolves are now but rarely seen in the inhabited parts of America; yet the government of Pennsylvania some years ago allowed a reward of twenty shillings, and that of New Jersey even of thirty shillings for the killing of every Wolf. Tradition informed them what a scourge these animals had been to the colonies, and they, by these means wisely determined to prevent the evil. In their infant state it is said that Wolves came down from the mountains, often attracted by the smell of the bodies of the hundreds of Indians who died of the small pox: but the animals did not confine their insults to the dead, but even devoured, in their huts, the sick and dying natives.*

When pressed by hunger, the Wolf, though naturally a coward, becomes courageous from necessity: he then braves every danger, and will venture to attack even the Buffalo. Sometimes whole droves of them descend upon the Sheep-folds, and,

* Penn. Arct. Zool. i. 39.

digging the earth under the doors, enter with dreadful ferocity, and put every living creature to death before they depart.

“By wintry famine rous’d from all the tract
Of horrid mountains, which the shining Alps,
And wavy Appennine, and Pyrenees,
Branch out stupendous into distant lands,
Cruel as death! and hungry as the grave!
Burning for blood! bony, ghaunt, and grim!
Assembling Wolves, in raging troops, descend;
And, pouring o’er the country, bear along,
Keen as the North wind sweeps the glossy snow:
All is their prize.”

Although the Wolf is the most gluttonous of quadrupeds, devouring even his own species when pressed by hunger, yet his rapacity does not exceed his cunning; always suspicious and mistrustful, he imagines every thing he sees is a snare laid to betray him. If he find a Rein-deer tied to a post, to be milked, he dares not approach, lest the animal should be placed there only to entrap him; but no sooner is the Deer set at large but he instantly pursues and devours it.* Such however is his extreme cowardice, that should the animal stand at bay, and act on the defensive, he will scarcely dare to attack it: a Cow or Goat, when they have turned upon and butted him with their horns, have frequently been known to put him to flight.†

In Norway they are frequently killed by a species of poisonous Lichen,‡ which the inhabitants put into the dead body of some animal and lay in their haunt. Sometimes they are caught by means of a

* Scheffer, 334.

† Pontoppidan, ii. 18.

‡ Lichen Vulpinum.

hole dug in the ground, and covered with a trap-door, which falls and lets them in, and afterwards shuts again. In these pits the cowardly animal is sometimes found in a corner, along with other beasts, which his fears would not suffer him to touch. Instances have occurred even of peasants falling into these traps, and sitting quietly with a Wolf till released by the hunter.*

The Wolf has great strength, especially in the muscles of his neck and jaws : he can carry a Sheep in his mouth, and in that manner, without any difficulty, run off with it. When reduced to extremity by hunger, we are told by Pontoppidan that he will swallow great quantities of mud in order to allay the uneasy sensations of his stomach. His sense of smelling is peculiarly strong : he scents the track of animals and follows it with great perseverance ; the odour of carrion strikes him at the distance of near a league.

In the year 1764, an animal of this kind committed peculiar ravages in some particular districts of Gevaudan in Languedoc, and became the terror of the whole country. If the accounts then given in the Paris Gazette may be trusted, he was known to have destroyed at least twenty persons, chiefly women and children. With the usual aggravation of popular description, he was represented by some who had seen him, as far surpassing in size the rest of his species, and striped somewhat in the manner

* Pontoppidan, ii. 19.

of a Tiger. Public prayers are said to have been offered up for his destruction.

Notwithstanding the savage nature of the Wolf he still is capable, when taken young, of being tamed. A remarkable instance of this, we are told, was exhibited in a Wolf belonging to the late Sir Ashton Lever, which was, by proper education, entirely divested of the ferocious character of its species. In the East, and particularly in Persia, Wolves are exhibited as spectacles to the people. When young, they are taught to dance, or rather to perform a kind of wrestling with a number of men. Chardin tells us, that a Wolf, well educated in dancing, is sold for five hundred French crowns. The Comte de Buffon brought up several of them : “ When young, or during the first year, (he informs us) they are very docile, and even caressing ; and if well fed, neither disturb the poultry, nor any other animals : but, at the age of eighteen months, or two years, their natural ferocity begins to appear, and they must be chained to prevent them from running off and doing mischief. I brought up one till it was eighteen or nineteen months old, in a court along with fowls, none of which he ever attacked : but, for his first essay, he killed the whole in one night, without eating any of them. Another, having broken his chain, ran off, after killing a Dog, with whom he had lived in great familiarity.” *

* Buff. Quad.

Wolves, in the northern parts of the world, sometimes, during the spring, get on the ice of the sea in quest of the young Seals, which they catch asleep there : but this repast frequently proves fatal to them ; for the ice, detached from the shore, carries them to a great distance from the land before they are sensible of it. It is said that, in some years, a large district is, by this means, delivered from these pernicious beasts, which are heard howling in a most dreadful manner far out at sea.

Their time of gestation is about three months and a half ; and when the females are about to bring forth, they search for some concealed place in the inmost recesses of the forests. After having fixed on the spot, they make it smooth and plain for a considerable space, by tearing up with their teeth all the brambles and brushwood. They then prepare a bed of moss, in which they bring forth five or six young : the mother suckles them for some weeks, and soon teaches them to eat flesh, which she prepares, by tearing it into small pieces. She then brings them Field-mice, young Hares, Partridges, and living Fowls, which they, at first, play with, and then kill ; when this is done, she tears them to pieces, and gives a part to each of her young. In about six weeks they leave their den, and follow the mother, who leads them abroad to some neighbouring pool to drink ; she conducts them back again, or, when any danger is apprehended, obliges them to conceal themselves elsewhere. When they are attacked, she defends them with intrepidity, losing every sense of danger, and

becoming perfectly furious. She never leaves them till their education is finished, and they have acquired talents fit for rapine.

In the Wolf there is nothing valuable but his skin, which makes a warm and durable fur. His flesh is so bad, that it is rejected with abhorrence by all other quadrupeds ; and no animal but a Wolf will voluntarily eat a Wolf. The smell of his breath is excessively offensive, as to appease hunger he swallows, almost indiscriminately, every thing he can find, as corrupted flesh, bones, hair, skins half tanned, and even covered with lime : in short, the Wolf is in an extreme degree disagreeable ; his aspect is savage, his voice dreadful, his stench insupportable, his disposition perverse, his manners ferocious ; destructive and odious to mankind (as far as the shallow bounds of their ideas will suffer them to judge,) while living, and, when dead, he is of little use.

The natives of Syria talk of an animal called the *Sheeb*, somewhat allied to the Wolf, though more ferocious. Its bite is said to be mortal, and that it occasions raving madness before death. In shape, as they say, it is so like a Wolf as hardly to be distinguished from it, and is deemed a distinct animal, chiefly on account of the effect of its bite. It is, perhaps, only a mad Wolf.

“ Long intervals elapse in which nothing is heard of the *Sheeb* ; and neither my brother nor myself (says Dr. Russel,) ever had an opportunity of seeing one, though we heard many stories of them.”

In the year 1772, the fore-part and tail of one of these animals were brought to Dr. Freer from Spheery.—It appeared to have been as large as a Wolf, and the doctor says, that it was one of several animals that followed the Bassora caravan, over the desert, from near Bassora, to the neighbourhood of Aleppo. Many persons in the caravan had been bitten, all of whom died in a short time raving mad. It was reported also, that some persons in the vicinity of Aleppo were bitten, and died in like manner; but the doctor saw none of them himself.”*

THE HYÆNA.†

The Hyæna is a native of Asiatic Turkey, Syria, Persia, and many parts of Africa. It is about the size of a large Dog, of a pale greyish brown, and marked across with several distant blackish bands. The hair of its neck is erect, and is continued in a bristly mane along the back; and the ears are longish, pointed and nearly naked. The tail is rather short, and very bushy. The head is broad and flat, and the eyes have the character of great wildness and ferocity. On each of the feet are four toes.

The ancients entertained many absurd notions respecting this animal: they believed that its neck consisted of but one bone, and that without a joint; that it every year changed its sex; imitated the

* Russel's Natural History of Aleppo.

† SYNONYMS.—*Canis Hyæna*. Linn.—Striped Hyæna. Penn.—L'Hyæna. Puffen—Shaw's Gen. Zool. pl. 78 —Beauv. Quad. 271.

human voice ; and that it had the power of charming the shepherds, and rivetting them to the place on which they stood.

They generally inhabit caverns and rocky places ; prowling about in the night to feed on the remains of dead animals, or on whatever living prey they can seize. They violate the repositories of the dead, and greedily devour the putrid contents of the grave ; they likewise prey on cattle, and frequently commit great devastation among the flocks ; yet, when other provisions fail, they will eat the roots of plants, and the tender shoots of the palms. They sometimes assemble in troops, and follow the movements of an army, in order to feast on the slaughtered bodies.

The voice of the Hyæna is very peculiar. Its beginning seems somewhat like the moaning of the human voice, and the ending like a person making a violent effort to vomit.

His courage is said to be equal to his rapacity. He will, on occasion, defend himself with great obstinacy against much larger animals. Kaempfer relates, that he saw one which had put two Lions to flight ; and that he will sometimes venture to attack the Ounce and the Panther. There is something in his aspect that indicates a peculiar gloominess and malignity of disposition ; and his manners correspond with his appearance.—Instances have occurred of the Hyæna being tamed : Mr. Pennant says that he saw an Hyæna as tame as a Dog ; and M. Buffon, that there was one of these animals shewn at Paris that had been tamed very early, and

was apparently divested of all its natural malevolence of disposition. In Barbary, Mr. Bruce assures us, that he has seen the Moors, in the day-time, take this animal by the ears and hawl him along, without his offering any other resistance than that of drawing back; and the hunters will take a torch in their hand, go into his cave, and, pretending to fascinate him by a senseless jargon of words, throw a blanket over, and drag him out.

Mr. Bruce locked up a Goat, a Kid, and a Lamb, all day with a Barbary Hyæna, when he was fasting, and found them in the evening alive and unhurt; but repeating an experiment of this kind one night, he ate up a young Ass, a Goat, and a Fox all before morning, so as to leave nothing but some fragments of the Ass's bones.

In Barbary, therefore, the Hyænas seem to lose their courage, and fly from man by day; but in Abyssinia, they often prowl about in the open day, and attack, with savage fury, every animal that chancethrows in their way.

“ They were (says Mr. Bruce) a plague in Abyssinia, in every situation, both in the city and in the field; and, I think, surpassed the Sheep in number. Gondar, was full of them, from the time it became dark till the dawn of day, seeking the different pieces of slaughtered carcasses, which this cruel and unclean people expose in the streets without burial, and who firmly believe that these animals are Falasha, from the neighbouring mountains, transformed by magic, and come down to eat hu-

man flesh in the dark in safety. Many a time in the night, when the king had kept me late in the palace, and it was not my duty to lie there, in going across the square from the king's house, not many hundred yards distant, I have been apprehensive lest they should bite me in the leg. They grunted in great numbers about me, although I was surrounded with several armed men, who seldom passed a night without wounding or slaughtering some of them.

“ One night in Maitsha, being very intent on an observation, I heard something pass behind me towards the bed ; but, upon looking round, could perceive nothing. Having finished what I was then about, I went out of my tent, resolving directly to return, which I immediately did, when I perceived two large blue eyes glaring at me in the dark. I called upon my servant with a light, and there was the Hyæna standing near the head of the bed, with two or three large bunches of candles in his mouth. To have fired at him, I was in danger of breaking my quadrant or other furniture ; and he seemed, by keeping the candles steadily in his mouth, to wish for no other prey at that time. As his mouth was full, and he had no claws to tear with, I was not afraid of him, but, with a pike, stuck him as near the heart as I could judge. It was not till then that he shewed any sign of fierceness ; but, upon feeling his wound, he let drop the candles, and endeavoured to run up the shaft of the spear to arrive at me, so that, in self-defence, I was obliged to draw my pistol from my girdle and shoot him ;

and, nearly at the same time, my servant cleft his skull with a battle-axe. In a word, the Hyæna was the plague of our lives, the terror of our night-walks, and the destruction of our Mules and Asses, which, above all others, are his favourite food.”

At Dar-Fûr, a kingdom in the interior of Africa, the Hyænas come in herds of six, eight, and often more, into the villages at night, and carry off with them whatever they are able to master. They will kill Dogs and Asses, even within the inclosure of the houses, and fail not to assemble wherever a dead Camel, or other animal, is thrown; which, acting in concert, they sometimes drag to a prodigious distance; nor are they greatly alarmed at the sight of men, or the report of fire-arms. Mr. Brown was told, that whenever any one of them is wounded, his companions always instantly tear him to pieces and devour him.*

A remarkable peculiarity in this animal is, that when he is first dislodged from cover, or obliged to run, he always appears lame for a considerable distance, and that sometimes to such a degree, according to Mr. Bruce, as to induce the spectators to suppose that one of his hind-legs is broken; but after running some time this affection goes off, and he escapes swiftly away.

The neck is so remarkably stiff, that in looking behind, or in snatching obliquely at any object, he is obliged to move the whole body, somewhat in the manner of the Hog. When the Arabs take

* Brown.

any of these animals, they are very careful to bury the head, lest the brain, according to their superstition, should be made use of in sorcery or enchantment.*

THE SPOTTED HYÆNA.†

The Spotted Hyæna has a considerable resemblance to the former species, but is larger, and marked with numerous roundish black spots. The face and upper part of the head are black; and along the neck is an upright black mane. The ground colour of the body is reddish-brown.‡

They are natives of many parts of Africa, but are peculiarly numerous at the Cape, where they are described as being cruel, mischievous, and formidable animals. They have frequently been known to enter the huts of the Hottentots in search of prey, from whence they sometimes carry off even the children. One of them coming into a Negro's house, on the coast of Guinea, laid hold of a girl, threw her, in spite of resistance, on his back, holding fast by one of the legs, and was making off with her, when the men, whom her screams had roused from their sleep, came to her relief. The beast dropped her, and made his escape; but she was considerably lacerated in different parts of her body by his teeth.§

* Shaw's Trav. 246.

† SYNONYMS.—*Canis Crocuta*. Linn.—Tiger-wolf. Sparrm. Kolben.—Quumbengo, or Jackal. Barbot, 209—486.—Jackals, or Boshond. Ludolf.—Jackall, or wild Dog. Bosman.—Spotted Hyæna. Penn.—Shaw's Gen. Zool. pl. 78.—Bezw. Quad. 274.

‡ Kerr. i. 139.

§ Barbot, v. 209.—Bosman, 295.

Numbers of them attend almost every dark night about the shambles at the Cape, to carry away and devour the filth and offal left there by the inhabitants, who suffer these, their scavengers, to come and return unmolested. The Dogs too, with which at other times they are in continual enmity, never then molest them : and, on these occasions, it has been remarked, they are seldom known to do any material mischief. Thunberg informs us, that they are so excessively bold and ravenous, as sometimes even to eat the saddle from under the traveller's head, and gnaw the shoes on his feet, while he is sleeping in the open air.*

They utter the most horrid yells in the night, while prowling about for prey ; and this propensity to howling is so implanted in them by nature, that one which was brought up tame at the Cape, was very often heard in the night to emit his dreadful yell.†

During the day they remain concealed in holes in the ground, or in clefts of rocks ; and in the night they frequently descend upon the sheep-folds, where, if not well defended by Dogs, they commit terrible ravages, killing, like most of their genus, many more than they devour.‡ Some of the inhabitants of the Cape pretend that they have the power of imitating the cries of other animals, and that by these means they often succeed in decoying Lambs, Calves, &c. from the folds. It is also said, that a party of them, half flying, and half

* Thunberg, ii. 57.

† Church.

‡ Kelben, ii. 108.

defending themselves, will decoy the whole of the Dogs from a farm to follow them to some distance, while the rest of their companions have an opportunity of coming from their retreats, and carrying off sufficient booty both for themselves and their flying brethren, before the Dogs can return to prevent them.*

Every kind of animal substance is a prize to them, and they will even rob the graves of their dead, unless these are secured and well covered with stones to prevent them.† The gluttony and filthy habits of these animals seems a kind interference of Providence to consume those dead and corrupting bodies, which in very hot climates might otherwise very seriously affect both the health and comfort of the people.

The inhabitants of Guinea kill them, by placing guns on the outside of the villages, with a piece of carrion fastened to the trigger, and placed near the muzzle, in such manner, that the moment they begin to devour, the trigger is pulled, and they are shot.‡

Dr. Sparrman relates a story of the Spotted Hyæna, for the truth of which, though he does not altogether vouch, is so diverting, that we shall make no apology for introducing it. “One night, at a feast near the Cape, a trumpeter, who had got himself well filled with liquor, was carried out of doors in order to cool and soberize him. The scent of him soon attracted a Tiger-wolf, which

* Church.

† Kolben, ii. 108.

‡ Barbot, v. 209.—Bosman, 235.

threw him on his back, and dragged him along like a corpse, and consequently a fair prize, up towards Table Mountain. In the mean time, however, our drunken musician awaked, sufficiently sensible to know the danger of his situation, and to sound the alarm with his trumpet, which he carried fastened to his side. The wild beast, as may easily be imagined, was not less frightened in his turn."* A late writer has observed, that any person but a trumpeter, in such a situation, would doubtless have furnished the animal with a supper.†

THE JACKAL.†

The body of the Jackal has a great resemblance to that of the Fox: the head, however, is shorter, the nose blunter, and the legs longer. The tail is thickest in the middle, and tapers to a point. The colour is a dirty tawny, yellowish beneath, and the tail tipped with black. The hair on the back is about three inches long, and much stiffer than that of the Fox. The length of the body is about thirty inches, and of the tail eleven. It is found in all the hot and temperate parts of Asia, and in most parts of Africa, from Barbary to the Cape.

In their manners these animals are much allied to the Dog: when taken young they soon become domestic, attach themselves to mankind, wag their

* Voyage to the Cape of Good Hope.

† Church.

‡ SYNONYMS.—*Canis aureus*. *Linn.*—Schakal. *Penn.*—Chagal, in Persia.—Adil. *Belon.*—*Shaw's Gen. Zool.* pl. 79.—*Beow. Quad.* 292.

tails when pleased, and distinguish their masters from other persons. They love to be fondled and patted with the hand, when called by name will immediately come, and if encouraged will leap on a table or chair. They eat readily from the hand, and drink as Dogs do, by lapping. They are fond of playing with Dogs, and do not, like most others of this genus, run away from them. Although carnivorous in a wild state, they eat bread eagerly. Mr. Pennant seems of opinion that they are the stock from whence have sprung the various races of those domestic animals.

In their native forests they associate in packs of from fifty to two hundred, where they hunt during the night, like Hounds, in full cry. They devour poultry and Lambs, ravage the streets of villages, and gardens near towns, and are said even to destroy children, if left unprotected. They are bold and courageous, sometimes entering the tent of a traveller while he is asleep, and stealing away any thing they can find that is eatable. If animal prey is not to be met with, they will feed on roots and fruit. The most infected carrion comes not in this case amiss to them : they greedily disinter the dead, and devour the most putrid bodies ; on which account the graves are in many countries made of a great depth. They attend caravans, and follow armies, to feast on the remains of the dead.

In the night their howlings (for their voice is naturally a howl), are dreadful ; and when they are near these are so horridly loud, that persons can with difficulty hear each other speak.

Dillon says, their voice is like the cries of many children of different ages mixed together: when one commences, the whole pack immediately afterward join in the howl. In the day time they are silent. All the beasts of the forest are roused by the cries of the Jackal, and the Lion and other beasts of prey, by a kind of instinct, attend to the chace, and seize such timid animals as fly from their noise: from this circumstance alone the Jackal has obtained the title of the Lion's Provider.

They burrow in the earth, and only leave their habitations during the night to range for prey. The females breed once a year, and produce from six to eight young at a birth.*

Such is, pretty nearly, the account of Mr. Pennant; that of the Comte de Buffon is different. He says that they are stupid and voracious animals, and very difficult to be tamed; that with one kept near a year, neither caresses nor food would soften his disposition, though taken young and reared with the utmost care. He would allow no one to touch him, and attempted to bite all persons indiscriminately. When suffered to be at liberty, nothing could prevent him from leaping on the tables, and carrying off every eatable he could lay hold of.

This writer also informs us, that whenever they meet with travellers they stop to reconnoitre them without any appearance of fear: That they are exceedingly voracious, and, when nothing better occurs, will even eat the leather of harnessing, or boots

* Penn. Quad. i. 244.

and shoes. Whenever any of them begin to utter their cry, all the rest do the same; so that when one has entered a house to steal, and hears his companions at a distance, he cannot refrain from adding his voice to the number, and is thus frequently detected.*

THE BARBARY JACKAL.†

The Barbary Jackal is about the size of the common Fox, and of a brownish fawn-colour. From behind each ear runs a black line, which soon divides into two, running downwards along the neck. The tail is bushy and surrounded by three dusky rings.

This species is found in Egypt, never in flocks like the common Jackal, but always singly. It is a very adroit animal: he ventures to approach, even in the open day, the houses near which he has his subterraneous abode; and, carefully concealed beneath thick bushes, he frequently creeps without noise, surprises the poultry, carries off their eggs, and leaves no traces to mark his exploits but the devastations themselves.

One of his principal talents lays in the hunting of birds, and in this he exhibits such surprising craft and agility, that very few are able to escape him.

His cunning is strongly depicted in the following narration of M. Sonnini:—"One day, as I was

* Buff. Quad. vii. 257.

† SYNONYMS.—*Canis Barbarus*. *Shaw*.—Barbary Schakal. *Penn.*—Thaleb. *Sonnini*.—Barbary Jackal. *Shaw*.

meditating in a garden, I stopped near a hedge. A Thaleb, hearing no noise, was coming through the hedge towards me, and when he had got clear, was just at my feet. On perceiving me he was seized with such surprize, that he remained motionless for some seconds, without even attempting to escape, his eyes fixed steadily on me. Perplexity was painted in his countenance in a manner of which I could not have supposed it susceptible, and which denoted great delicacy of instinct. On my part, I was afraid to move, lest I should put an end to this situation, which afforded me much pleasure. At length, after he had taken a few steps, first towards one side and then the other, as if too much confused to know which way to get off, and keeping his eyes still turned toward me, he retired, not running, but stretching himself out, or rather creeping, with a slow step, setting down his feet one after another with singular precaution. He seemed so much afraid of making a noise in his flight, that he held up his large tail almost in an horizontal line, that it might neither drag on the ground, nor brush against the plants. On the other side of the hedge I found the fragments of his meal, that had consisted of a bird of prey, great part of which he had devoured."

He is one of the prettiest of quadrupeds, and perhaps would be one of the most amiable, if his tricks and talents for depredation did not bear greatly too much the marks of knavery and falsehood.*

THE FOX.*

The Fox is a native of almost every quarter of the globe, and is of such a wild and savage nature that it is impossible fully to tame him. He is esteemed the most sagacious and most crafty of all beasts of prey. The former quality he shews in his mode of providing himself an asylum, where he retires from pressing dangers, where he dwells, and where he brings up his young: and his craftiness is discovered by his schemes to catch Lambs, Geese, Hens, and all kinds of small birds. The Fox, if possible, fixes his abode on the border of a wood, in the neighbourhood of some farm or village: he listens to the crowing of the Cocks and the cries of the poultry: he scents them at a distance; he chuses his time with judgment; he conceals his road as well as his design; he slips forward with caution, sometimes even trailing his body, and seldom makes a fruitless expedition. If he can leap the wall, or get in underneath, he ravages the court-yard, puts all to death, and retires softly with his prey, which he either hides under the herbage, or carries off to his kennel. He returns in a few minutes for another, which he carries off or conceals in the same manner, but in a different place. In this way he proceeds till the progress of the sun, or some movements perceived in the house, advertize him that it is his time to suspend his operations, and to retire to his den. He plays the same

* SYNONYMS—*Canis Vulpes.* Linn.—Renard, Buffon.—Bew.
Quadr. 279. 280.

game with the catchers of Thrushes, Woodcocks, &c. He visits the nets and birdlime very early in the morning, carries off successively the birds which are entangled, and lays them in different places, especially by the sides of high-ways, in the furrows, under the herbage or brush-wood, where they sometimes lie two or three days; but he knows perfectly where to find them when he is in need. He hunts the young Hares in the plains, seizes old ones in their seats, digs out the Rabbits in the warrens, discovers the nests of Partridges and Quails, seizes the mothers on the eggs, and destroys a vast quantity of game. He is exceedingly voracious, and when other food fails him, makes war against Rats, Field Mice, Serpents, Lizards and Toads. Of these he destroys vast numbers, and this is the only service that he appears to do to mankind. When urged by hunger he will also eat roots or insects; and the Foxes near the coasts will devour Crabs, Shrimps, or Shell-fish. In France and Italy they do incredible mischief by feeding on grapes, of which they are excessively fond.*

We are told by Buffon that he sometimes attacks Bee-hives, and the nests of Wasps, for the sake of what he can find to eat: and that he frequently meets with so rough a reception as to force him to retire, that he may roll on the ground and crush those that are stinging him; but having thus rid himself of his troublesome companions, he instantly

* Penn. Brit. Zool, ii. 73.

returns to the charge, and obliges them at length to forsake their combs, and leave them to him as the reward of his victory. When pressed by necessity he will devour carrion. "I once, (says M. Buffon), suspended on a tree, at the height of nine feet, some meat, bread, and bones. The Foxes had been at severe exercise during the night; for next morning the earth all round was beaten, by their jumping, as smooth as a barn floor."

The Fox exhibits a great degree of cunning in digging young Rabbits out of their burrows. He does not enter the hole, for in this case he would have to dig several feet along the ground, under the surface of the earth; but he follows their scent above, till he comes to the end, where they lay, and then scratching up the earth, descends immediately upon, and devours them.*

Pontoppidan informs us, that when the Fox observes an Otter go into the water to fish, he will frequently hide himself behind a stone, and when the Otter comes to shore with his prey, he will make such a spring upon him that the affrighted animal runs off and leaves his booty behind. "A certain person, (continues this writer), was surprised on seeing a Fox near a fisherman's house, laying a parcel of Torsk's † heads in a row: He waited the event; the Fox hid himself behind them, and made a booty of the first Crow that came for a bit of them."‡

* Smith's Directory for destroying Vermin, p. 2. † A Species of Cæd.

‡ Pontoppidan, ii. 22. These seem such extraordinary instances of sagacity and intelligence, that we scarcely know how to credit them.

The Fox prepares for himself a convenient den, in which he lies concealed during the greater part of the day. This is so contrived as to afford the best possible security to the inhabitant, being situated under hard ground, the roots of trees, &c. and is besides furnished with proper outlets through which he may escape in case of necessity. This care and dexterity in constructing for himself a habitation, is by M. Buffon considered as alone sufficient to rank the Fox among the higher order of quadrupeds, since it implies no small degree of intelligence.

“The Fox, (says he), knows how to ensure his safety, by providing himself with an asylum to which he retires from pressing dangers, where he dwells, and where he brings up his young. He is not a vagabond, but lives settled in a domestic state. This difference though it appears even among men, has greater effects, and supposes more powerful causes among the inferior animals. The single idea of a habitation or settled place of abode, the art of making it commodious, and concealing the avenues to it, imply a superior degree of sentiment.”

He is one of those animals, that in this country are made objects of diversion in the chace. When he finds himself pursued he generally makes towards his hole, and penetrating to the bottom, lies till a Terrier is sent in to him. If his den is under a rock or the roots of trees, which is often the case, he is safe, for the Terrier is no match for him there, and he cannot be dug out by his ene-

mies. When the retreat to his kennel is cut off, his stratagems and shifts to escape are as surprising as they are various. He always takes to the most woody parts of the country, and prefers the paths that are most embarrassed with thorns and briars. He runs in a direct line before the hounds, and at no great distance from them; and if hard pushed, seeks the low, wet grounds, as if conscious that the scent did not lie so well there. When overtaken, he becomes obstinately desperate, and bravely defends himself against the teeth of his adversaries even to the last gasp.*

Dr. Goldsmith relates a remarkable instance of the parental affection of this animal, which he says occurred near Chelmsford. "A she Fox that had, as it should seem, but one cub, was unkennelled by a gentleman's Hounds, and hotly pursued. The poor animal, braving every danger, rather than leave her cub behind to be worried by the Dogs, took it up in her mouth, and ran with it in this manner for some miles. At last, taking her way through a farmer's yard, she was assaulted by a Mastiff, and at length obliged to drop her cub; this was taken up by the farmer." And we are happy to add that the affectionate creature escaped the pursuit, and got off in safety.†

Of all animals the Fox has the most significant eye, by which is expressed every passion of love fear, hatred, &c. He is remarkably playful; but like all savage creatures half reclaimed, will on the

* Church.

† Goldsmith, iii. 330.

least offence bite even those with whom he is most familiar. He is never to be fully tamed: he languishes when deprived of liberty; and if kept too long in a domestic state, he dies of chagrin. When abroad, he is often seen to amuse himself with his fine bushy tail, running sometimes for a considerable while in circles to catch it. In cold weather he wraps it about his nose.”*

The Fox is very common in Japan. The natives believe him to be animated by the devil, and their historical and sacred writings are all full of strange accounts respecting him.†

He possesses astonishing acuteness of smell. During winter he makes an almost continual yelping, but in summer, when he sheds his hair, he is for the most part silent.

In the Northern countries there is a *Black Fox*, a variety of the Common Fox. The Kamtschadales informed Dr. Grieve that these were once so numerous with them, that whenever they fed their Dogs, it was difficult piece of labour to prevent them from partaking. The Doctor says that when he was in Kamtschatka, they were in such plenty near the forts, that in the night they entered them without any apparent apprehension of danger from the Dogs of the country. One of the inhabitants, he informs us, caught several of them in the pit where he kept his fish.

The mode usually adopted by the inhabitants for

* Penn. Brit. Zool. i. 73.

† Kaempfer, i. 126.

taking them is by traps baited with live animals : and for the greater security two or three of these traps are placed upon one hillock, that, whatever way the Foxes approach, they may fall into one of them. This is found necessary, since those which have been once in danger, ever afterwards go so cautiously to work, as frequently to eat the bait without being seized. But, with all their cunning, when several traps are employed, it is difficult for them to escape.* Their skins are very valuable.

THE ARCTIC FOX.†

The Arctic Fox is smaller than the Common Fox, and of a blueish grey colour, which sometimes changes to perfect white. The hair is very thick, long, and soft : the nose sharp, and the ears short, and almost hid in the fur : the legs are short, and the toes covered on the under parts like those of a hare. The tail is shorter, but more bushy than that of the Common Fox. These animals are found only in the Arctic regions near the Polar Circle, and in the islands of the Frozen and Eastern Oceans ; where they are met with in incredible numbers.

Steller has given us an ample and entertaining description of their manners.‡

* Grieve's History of Kamtschatka, p. 95.

† SYNONYMS.—*Canis Lagopus*. *Linn.*—*Isatis*. *Buffon.*—*Bew.* *Quadr.* 283.

‡ This description would seem to border somewhat on romance ; but we know not how to contradict the statement of facts to which a respectable writer informs us he was an eye-witness.

“ During my unfortunate abode (says he) on Bering’s island, I had opportunities more than enough of studying the nature of this animal, which far exceeds the common Fox in impudence, cunning, and roguery. The narrative of the innumerable tricks they played us, might vie with Albertus Julius’s history of the Apes on the island of Saxenburg.

“ They forced themselves into our habitations by night as well as by day, stealing all that they could carry off; even things that were of no use to them, as knives, sticks, and cloaths. They were so inconceivably ingenious as to roll down our casks of provisions, several *poods** in weight, and then steal the meat out of them so ably, that, at first, we could not bring ourselves to ascribe the theft to them. As we have stripped an animal of its skin, it has often happened that we could not avoid stabbing two or three Foxes, from their rapacity in tearing the flesh out of our hands. If we buried it ever so carefully, and even added stones to the weight of earth that was upon it; they not only found it out, but with their shoulders shoved away the stones, lying under them and helping one another with all their might. If, in order to secure it, we put any animal on the top of a high post in the air, they either dug up the earth at the bottom, and thus tumbled the whole down, or one of them clambered up, and with incredible

* The *pood* is equal to 40 Russian pounds, each of which is somewhat less than the English pound.

artifice and dexterity threw down what was upon it.

“ They watched all our motions, and accompanied us in whatever we were about to do. If the sea threw up an animal of any kind they devoured it, before we could get up to rescue it from them : and if they could not consume the whole of it at once, they trailed it in portions to the mountains, where they buried it under stones before our eyes ; running to and fro so long as any thing remained to be conveyed away. While this was doing, others stood on guard, and watched us. If they saw any one coming at a distance, the whole troop would combine at once and begin digging altogether in the sand, till a Beaver, or Sea-bear would be so completely buried under the surface that not a trace of it could be seen. In the night-time, when we slept in the field, they came and pulled off our night-caps, and stole our gloves from under our heads, with the beaver-coverings, and the skins that we lay upon. In consequence of this we always slept with our clubs in our hands, that if they awoke us we might drive them away, or knock them down.

“ When we made a halt to rest by the way, they gathered around us, and played a thousand tricks in our view, and when we sat still they approached us so near that they gnawed the thongs of our shoes. If we lay down, as if intending to sleep, they came and smelt at our noses, to try whether we were dead or alive ; if we held our breath they gave us such a tug to the nose as

though they would bite it off. On our first arrival, they bit off the noses, the fingers, and the toes of our dead, while we were preparing the grave, and thronged in such a manner about the infirm and sick, that it was with difficulty we could keep them off.

“ Every morning we saw these audacious animals patrolling about among the Sea-lions and Seabears* lying on the strand, smelling at such as were asleep, to discover whether some one of them might not be dead; if that happened to be the case they proceeded to dissect him immediately, and soon afterwards all were at work in dragging the parts away: because the Sea-lions sometimes in their sleep overlay their young, they every morning examined, as if conscious of this circumstance, the whole herd of them, one by one, and immediately dragged away the dead cubs from their dams.

“ As they would not suffer us to be at rest, either by night or day, we became so exasperated at them, that we killed them, young and old, and plagued them by every means we could devise. When we awoke in the morning, there always lay two or three that had been knocked on the head in the night; and I can safely affirm, that, during my stay upon the island, I killed above two hundred of these animals with my own hands. On the third day after my arrival I knocked down with a club, within the space of three hours, upwards of

* Leonine Seals, and Polar Bears.

seventy of them, and made a covering to my hut of their skins. They were so ravenous, that with one hand we could hold to them a piece of flesh, and with a stick or axe in the other could knock them on the head.

“ From all the circumstances that occurred during our stay, it was evident that these animals could never before have been acquainted with mankind, and that the dread of man is not innate in brutes, but must be grounded on long experience.

“ In October and November they, like the common Foxes, were the most sleek and full of hair. In January and February the growth of this was too thick; in April and May they began to shed their coat; in the two following months they had only wool upon them, and appeared as if they went in waistcoats.

“ In June they dropt their cubs, nine or ten at a brood, in holes and clefts of the rocks. They are so fond of their young, that, to scare us away from them, they barked and yelled like Dogs, by which they betrayed their covert: but no sooner do they perceive that their retreat is discovered than, unless they be prevented, they drag away the young in their mouths, and endeavour to conceal them in some more secret place. On killing the young the dam will follow the slayer, with dreadful howlings, both day and night, for a hundred or more *versts*,* and will not even then cease till she has done her

* The Russian *verst* contains about 1166 English yards and about a half.

enemy some material injury, or is herself killed by him.

“ In storms, and heavy falls of snow, they bury themselves in the snow, where they lie as long as it lasts. They swim across the rivers with great agility. Besides what the sea casts up, or what is destroyed by other beasts, they seize the Sea-fowl, by night, on the cliffs, where they have settled to sleep; but they, on the contrary, are themselves frequently victims to the birds of prey.

“ These animals, which are now in such inexpressible numbers on the island, were probably conveyed thither (since there is no other land animal upon it,) from the continent on the drift-ice; and, being afterwards nourished by the great quantity of animal substances thrown ashore by the sea, they became thus enormously multiplied.”

We are informed by Mr. Crantz, that the Arctic Foxes exert an extraordinary degree of cunning in their mode of obtaining Fish for prey. They go into the water, and make a splash with their feet, in order to excite their curiosity, and when they come up, immediately seize them. He says that, in imitation of these animals, the Greenland women have adopted the same successful method.*

Charlevoix, apparently alluding to this species, says that they exert an almost incredible degree of cunning in entrapping the different kinds of Water-fowl. They advance a little way into the water, and afterwards retire, playing a thousand antic

* Hist. of Greenland.

tricks on the banks. The Fowl approach, and, when they come near, the animal ceases that he may not alarm them, moving only his tail about, and that very gently : they are said to be so foolish as to come up and peck at it, when he immediately springs round upon them, and seldom misses his aim.*

In Spitzbergen and Nova Zembla, Mr. Pennant tells us, these Foxes live also on the lesser quadrupeds : in Greenland, from necessity, on berries, shell-fish, or whatever the sea throws up : but, in the north of Asia, and in Lapland, their principal food is the Lemming,† the multitudes of which are sometimes so immense as to cover the whole face of the country. The Foxes follow them in their emigrations from place to place ; and, as the return of the Lemming is very uncertain, and not frequently till after long intervals of time, they are sometimes absent for three or four years in pursuit of this their favourite prey.

Mr. Pennant also tells us, that they are tame and inoffensive animals ; and so simple that there have been instances of their standing by while the trap was baiting, and immediately afterwards putting their heads into it.‡

They are killed for the sake of their skins, the fur of which is light and warm, but not durable. They have at times appeared in such vast numbers about Hudson's Bay, that four hundred have been

* Charlevoix Travels, i. 207.

† Mus Lemmus of Linnæus.

‡ Penn. Arct. Zool. i. 43, 44.

taken in different ways between the months of December and March.

The Greenlanders sometimes eat the flesh, which they prefer to that of the Hare : they also make buttons of the skins ; and, splitting the tendons, make use of them instead of thread.

THE CAT TRIBE.

THIS tribe of animals is ferocious, and tolerably swift of foot. They hunt for their prey chiefly in the night, and seize it by surprize, lying in wait till it comes within reach, and then springing suddenly forwards upon it at one leap. While their prey is in sight they frequently move their tail from side to side, keeping at the same time their eyes steadily fixed on the object. They never adopt vegetable food, except from necessity. Most of them are very agile in climbing trees, and have the remarkable property of alighting on their feet when accidentally thrown, or falling, from a height, by which the danger usually attendant on such falls is often prevented. The females, producing a considerable number of young at a birth, have eight teats, four of which are situated on the breast, and the other four on the belly.*

In this genus the fore-teeth are six, the intermediate ones equal : the grinders are three on each

* Linn. Gmel. i. 76. Kerr. i. 145.

side: the tongue is furnished with rough, sharp prickles that point backwards; and the claws are sheathed and retractile,* a necessary provision to keep them from being dulled while walking, for being their principal weapons both of offence and defence, they are of necessity hooked and sharp.

THE LION.†

The Lion is chiefly found in the interior of Africa, and in the hotter parts of Asia. His form is strikingly bold and majestic: his large head and shaggy pendent mane; his strength of limb, and formidable countenance, exhibit a picture of terrific grandeur, which no words can describe.

His length is from six to eight feet, and his tail, which is terminated by a tuft of blackish hair, is itself about four feet. The general colour is a pale tawny inclining to white beneath. The claws are retractile, not into sheaths, but only between the toes by means of a particular articulation of the last joint: the last bone but one, by bending itself outwards, gives place to the last, which is only articulated to it, and to which the claw is fastened so as to bend itself upwards, and sideways more easily than downwards. So that the bone which is at the end of every toe, being almost continually bent upwards, it is not the end of the toes that rests

* Except in the Lion, where they are retractile, but not into sheaths.
—See the following account.

† SYNONYMS.—*Canis Leo*. *Lin.*—*Lion*. *Buffon*.—*Shaw's Gen. Zool.* p. 81, 82.—*Brew. Quad.* 179.

upon the ground, but the node of the articulation of the two last bones; and thus in walking the claws remain elevated and retracted between the toes, those of the right paws towards the right, and those of the left towards the left side of the toes. This admirable structure is not found in the great-toe, whose last joint bends only downwards, because this toe does not naturally rest upon the ground, being considerably shorter than the others.*

The Lioness is smaller than the Lion, and destitute of mane. She brings forth in the spring in the most sequestered places, and produces four or five young at a time. These, on their first appearance, are about the size of a small pug Dog, and they continue at the teat near twelve months.

The strength of the Lion is so prodigious, that a single stroke of his paw is sufficient to break the back of a horse, and one sweep with his tail will throw a strong man to the ground. Kolben says, that when he comes up to his prey, he always knocks it down dead, and seldom bites it till the mortal blow has been given: this blow he generally accompanies with a terrible roar.†

A Lion was once seen at the Cape to take a Heifer in his mouth; and though that animal's legs dragged on the ground, yet he seemed to carry her off with as much ease as a Cat does a Rat. He likewise leaped over a broad ditch with her, without the least difficulty. A Buffalo, perhaps, would be too cumbersome for this beast of prey, notwithstanding

* Memoirs of the Acad. of Scien. at Paris.

† Kolben. ii. 95.

his strength, to seize and carry off with him in the manner above-mentioned. “Two yeomen, (says Dr. Sparrman) upon whose veracity I can place some confidence, gave me the following account relative to this matter.

“Being a hunting near *Boshies-mans-river* with several Hottentots, they perceived a Lion dragging a Buffalo from the plain to a wood upon a neighbouring hill. They, however, soon forced it to quit its prey, in order to make a prize of it themselves, and found that this creature had had the sagacity to take out the Buffalo’s large and unwieldy entrails, in order to be able the easier to make off with the fleshy and more eatable part of the carcase. The wild beast too, as soon as it saw, from the skirts of the wood, that the Hottentots had begun to carry off the flesh to the waggon, frequently peeped out upon them, and that probably with no little mortification.

“The Lion’s strength, however, is said not to be sufficient alone to get the better of so large and strong an animal as the Buffalo; but, in order to make it his prey, this fierce creature is obliged to have recourse both to agility and stratagem; inso-much, that stealing on the Buffalo, it fastens, with both its paws, upon the nostrils and mouth of the beast, and continues squeezing them close together, till at length the poor animal is strangled, wearied out, and dies. It was said, that a certain colonist had had an opportunity of seeing a transaction of this kind; and others had reason to conclude that something of this nature had passed, from seeing

Buffaloes, which had escaped from the clutches of Lions, and bore marks of the claws of these animals about their mouth and nose. They asserted, however, that the Lion himself risked his life in such attempts, especially if any other Buffalo was at hand to rescue that which was attacked. It was said, that a traveller once had an opportunity of seeing a female Buffalo, with her calf, defended by a river at her back, keep, for a long time, at bay, five Lions which had partly surrounded her, but did not (at least as long as the traveller looked on,) dare to attack her.” *

The Lion does not willingly attack any animal openly, unless provoked, or extremely hungry; in the latter case he is said to fear no danger, and to be repelled by no resistance. The method in which he takes his prey, is, almost always, to spring or throw himself on it, with one vast bound, from the place of his concealment; yet, if he chances to miss his leap, he will not, as the Hottentots invariably assured Dr. Sparrman, follow his prey any farther; but, as though he were ashamed, turning round towards the place where he lay in ambush, slowly, and step by step, as it were, measures the exact length between the two points, in order to find how much too short or, or how much beyond the mark he had taken his leap.

“ From all the most credible accounts that I could collect concerning Lions (continues this intelligent writer,) as well as from what I saw myself,

* Sparrman's Voyage to the Cape of Good Hope.

I think I may safely conclude, that this wild beast is frequently a great coward ; or, at least, deficient in point of courage comparatively to his strength : on the other hand, however, he sometimes shews an unusual degree of intrepidity, of which I will just mention the following instance, as it was related to me.

“ A Lion had broken into a walled inclosure for cattle through the latticed gate, and done considerable damage. The people belonging to the farm were well assured of his coming again by the same way ; in consequence of this they stretched a rope directly across the entrance, to which several loaded guns were fastened in such a manner, that they must necessarily discharge themselves into the Lion’s body as soon as ever he should push against the cord, as it was expected he would, with his breast. But the Lion, which came before it was dark, having probably some suspicions respecting the cord, struck it away with his foot ; and without betraying the least fear, in consequence of the reports made by the loaded pieces, went on steadily, and careless of every thing, and devoured the prey he had left untouched before.”

Though the Lion generally springs upon his prey from some lurking-place, yet there have been instances where he has deviated from his usual method ; of these the following, related by Dr. Sparrman, is remarkable :—A Hottentot, perceiving that he was followed by a Lion, and concluding that the animal only waited the approach of night to make him his prey, began to consider what was

the best mode of providing for his safety, which he at length effected in the following singular manner:—Observing a piece of broken ground, with a precipitate descent on one side, he sat down by the edge of it, and found, to his great joy, that the Lion also made a halt, and kept at a distance behind him. As soon as it grew dark, the man, sliding gently forward, let himself down a little below the edge of the steep, and held up his cloak and hat on his stick, at the same time gently moving them backward and forward. The Lion, after a while, came creeping gently towards the object; and mistaking the skin-cloak for the man himself, made a spring, and fell headlong down the precipice. By these means, the poor fellow was safely delivered from his horrible and rapacious enemy.

One of the Namaaqua Hottentots (whose country is about eighty leagues north of the Cape,) endeavouring to drive his master's cattle into a pool of water, enclosed between two ridges of rock, espied a huge Lion couching in the midst of the pool. Terrified at the unexpected sight of such a beast, that seemed to have its eyes fixed upon him, he instantly took to his heels. In doing this he had presence of mind enough to run through the herd, concluding that if the Lion should pursue, he would take up with the first beast that presented itself. In this, however, he was mistaken. The Lion broke through the herd, making directly after the Hottentot, who, on turning round, and perceiving that the monster had singled him out, breathless and half dead with fear, scrambled up

one of the tree-aloes, in the trunk of which had luckily been cut out a few steps, the more readily to come at some bird's nests that the branches contained. At the same moment the Lion made a spring at him, but, missing his aim, fell upon the ground. In surly silence he walked round the tree, casting at times a dreadful look towards the poor Hottentot, who had crept behind the nests. We should here remark, that these nests belong to a small bird of the genus *Loxia*,* that lives in a state of society with the rest of its species, constructing a whole republic of nests in one clump, and under one cover. One of these clumps of nests will sometimes extend a space of ten feet in diameter, and contain a population of several hundred individuals. It was under the cover of one of these edifices that the Hottentot screened himself from the sight of the Lion. Having remained silent and motionless for a length of time, he ventured to peep over the side of the nest, hoping that the Lion had taken his departure; when, to his great terror and astonishment, his eyes met those of the animal, which, as the poor fellow afterwards expressed himself, " flashed fire at him." In short, the Lion laid himself down at the foot of the tree, and did not move from the place for four and twenty hours. At the end of this time, becoming parched with thirst, he went to a spring at some distance in order to drink. The Hottentot now, with trepidation, ventured to descend, and scam-

* *Loxia Socia* of Linnæus.

pered off home, which was not more than a mile distant, as fast as his feet could carry him, where he arrived in safety. The perseverance of the Lion was such, that, it appeared afterwards, he returned to the tree, and, finding the man had descended, hunted him by the scent to within three hundred paces of the house.

It seems to be a well established fact, that the Lion prefers the flesh of a Hottentot to that of any other creature. He has been frequently singled out from a party of Dutch: the latter, however, being disguised in clothing, and the former going generally naked, may perhaps account for it. The Horse, next to the Hottentot, seems to be his favourite food; but on the Sheep, perhaps from his woolly covering, which he is too indolent to uncase he seldom deigns to fix his paw.*

Where the Lion has become acquainted with human power, and experienced man's superiority, his courage has been so lost as to be scared away even with a shout. In a tame state, but it is scarcely fair to draw any general inference from this, we have an instance of a Lion being overcome by a Goat. Mr. Brue, director and commander-general of the Senegal company, on the African coast, had near him a large, full grown, tame Lion, four years old, when a flock of Goats was brought that had been just purchased. The sight of this tremendous animal so frightened them, that all, except one, ran off. This, looking stedfastly at the Lion, stamped

* Barrow's Travels in Africa, 393.

with his foot upon the ground, in a menacing manner, then retreated three steps, and instantly returning, struck the Lion's forehead so violently with his horns, that the animal was stunned by the blow. The Goat repeated this several times before the Lion could recover himself, and he was thrown into such confusion, that he was obliged to conceal himself behind his master.*

If we did not know somewhat of the natural disposition of this stately animal, we should feel a great degree of terror in seeing the keepers of wild beasts play with him, pull out his tongue, and even chastize him, as they sometimes do, without a cause. He seems to bear all with the utmost composure ; and we very rarely have instances of his revenging these unprovoked sallies of impertinent curiosity. However, when his anger is at last excited, the consequences are terrible. Labat tells us of a gentleman who kept a Lion in his chamber, and employed a servant to attend it, who, as usual, mixed his blows with caresses. This ill-judged association continued for some time: till one morning the gentleman was awakened by a noise in his room, which he could not at first account for ; but drawing the curtains, he beheld an horrid spectacle—the Lion growling over the man's head, which he had separated from the body, and was tossing round the floor. He immediately, therefore, ran into the next room, called to the people without, and had the animal secured from doing farther

* Labat, quoted in Church.

mischief. However, this single account is not sufficient to weigh against the many instances we every day see of this creature's gentleness and submission. He is often bred up with domestic animals, and is seen to play innocently and familiarly among them; and if it ever happens that his natural ferocity returns, it is seldom exerted against his benefactors.

The following pleasing anecdotes afford very sufficient proofs of the Lion's gratitude and affection.

In the reign of King James the First, Mr. Henry Archer, a watchmaker in Morocco, had two whelps given him, which had been stolen not long before from a Lioness near Mount Atlas. They were a male and female, and till the death of the latter were kept together in the emperor's garden. He, at that time, had the male constantly in his bedroom, till he was as tall as a large Mastiff-dog; he was perfectly tame and gentle in his manners. Being about to return to England, he reluctantly gave the animal to a Marseilles merchant, who presented him to the French king, from whom he came as a present to our king, and, for seven years afterwards, was kept in the tower. A person of the name of Bull, who had been a servant to Mr. Archer, went by chance with some friends, to see the animals there. The beast recognized him in a moment; and, by his wining voice and motions, expressive of anxiety for him to come near, fully exhibited the symptoms of his joy at meeting with a former friend. Bull, equally rejoiced, ordered the keeper to open the grate, and he went in. The Lion

fawned upon him like a dog, licking his feet, hands, and face, skipped and tumbled about to the astonishment of all the spectators. When the man left the place the animal bellowed aloud, and shook his cage in an extacy of sorrow and rage, and for four days afterwards refused to take any nourishment whatever.*

An instance of recollection and attachment occurred not many years ago in a Lion belonging to the Duchess of Hamilton: it is thus related by Mr. Hope. "One day I had the honour of dining with the Duchess of Hamilton: after dinner the company attended her grace to see a Lion, that she had in the court, fed. While we were admiring his fierceness, and teasing him with sticks to make him abandon his prey and fly at us, the porter came and informed the Duchess, that a serjeant, with some recruits at the gate, begged permission to see the Lion. Her Grace, with great condescension and good nature, asked permission of the company for the travellers to come in, as they would then have the satisfaction of seeing the animal fed. They were accordingly admitted at the moment the Lion was growling over his prey. The Serjeant, advancing to the cage, called out "Nero, Nero, poor Nero, don't you know me?" The animal instantly turned his head to look at him; then rose up, left his prey, and came, wagging his tail, to the side of the cage. The man then put his hand upon him, and patted him; telling us,

* Smith's Travels, in Churchill's Coll. ii. 395.

at the same time, that it was three years since they had seen each other, but that the care of the Lion on his passage from Gibraltar, had been committed to him, and he was happy to see the poor beast shew so much gratitude for his attention. The Lion, indeed, seemed perfectly pleased; he went to and fro, rubbing himself against the place where his benefactor stood, and licked the Serjeant's hand as he held it out to him. The man wanted to go into the cage to him, but was withheld by the company, who were not altogether convinced of the safety of the act."*

Citoyen Felix, about four years ago, brought two Lions, a male and female, to the national menagerie at Paris: about the beginning of June afterwards, Felix was taken ill, and could no longer attend the Lions; another was, therefore, forced to perform his duty. The male, sad and solitary, remained from that moment constantly seated at the end of his cage, and refused to receive any thing from the stranger: his presence was even hateful to him, and he often menaced him by bellowing. The company of the female seemed even to displease him; he paid no attention to her. The uneasiness of the animal afforded a belief that he was really ill, but no one dared to approach him. At length Felix recovered, and, with intention to surprise the Lion, he crawled softly to the cage, and shewed only his face between the bars: the Lion, in a moment, made a bound, leaped against the bars, patted him

* Thoughts in Prose and Verse, by John Hope, 1782.

with his paws, licked his hands and face, and trembled with pleasure. The female also ran to him; the Lion drove her back; seemed angry; and, fearful that she should snatch any favours from Felix, a quarrel seemed about to take place, but Felix entered the cage to pacify them. He caressed them by turns; and was afterwards frequently seen between them. He had so great a command over them, that whenever he wished them to separate, and retire to their cages, he had only to speak the words; whenever he had a desire that they should lie down, and shew strangers their paws or throats, on the least sign they would lie on their backs, hold up their paws one after another, open their throats, and, as a recompence, obtain the favour of licking his hand. These animals were of a strong breed, and, at the time above-mentioned, were five years and a half old.*

We are assured, from numberless authorities, that the anger of this animal is noble, his courage magnanimous, and his disposition grateful. He has been often seen to despise contemptible enemies, and pardon their insults when it was in his power to have punished them. He has been known to spare the lives of such as were thrown to be devoured by him, to live peaceably with them, to afford them part of his subsistence, and sometimes even to want food himself rather than deprive them of that life which his generosity had spared. We shall mention a single instance:—A Dog was put

* Tilloch's Phil. Mag.

into the cage of a Lion in the menagery at the Tower, some years ago, for food; the stately animal, however, spared his life, and they lived together for a considerable time in the same den, in the most perfect harmony, and appeared to have a great affection for each other. The Dog had sometimes the impudence to growl at the Lion, and even dispute with him the food which was thrown to them, so true is the old proverb, "familiarity breeds contempt;" but the noble animal was never known to chastise the impertinent conduct of his little companion, but usually suffered him to eat quietly till he was satisfied, before he began his own repast.*

Instances have indeed occurred of his merely chastising even his pursuers, without destroying them. A Hottentot, of the Cape, was thus bit in the face by a Lion, who then stalked away. A farmer lay for some time under a Lion, and received several severe bruises from him, yet the animal spared his life. It is, however, a matter of some doubt, whether this merciful disposition towards man is the effect of generosity, or whether it arises merely from caprice and want of appetite.†

Tavernier mentions, that, in some parts of the East, the inhabitants have a mode of taming Lions, which does not seem to be practised in any other part of the world. Four or five of these animals are brought together, and tied by their hind legs, to stakes, at the distance of twelve yards from each other. Another strong cord is put round each of their

* Church's Cabinet of Quadupeds.

† Ibid.

necks, which is held by men, who stand behind the stakes. In the front, and in a line parallel with the animals, but just beyond their reach, when they are at the extent of the rope that ties their legs, another cord is placed, against which several people stand, who incessantly tease them, by throwing stones and pieces of wood at them. The Lions, provoked at this outrage, spring with fury towards the people, when the man, who holds the ropes that are round their necks, pulls them back. Thus they are by degrees accustomed to become familiar. Tavernier was himself a witness of this amusement.*

Mr. Brown tells us, that, while he was resident at Dar Fûr, in Africa, he purchased two Lions, one of which was only four months old. By degrees, he rendered this animal so tame that he acquired most of the habits of a Dog. He satiated himself twice a week with the offal of the butchers, and then commonly slept for several hours successively. When food was given them, they were both furious to each other, and to any one who approached them; but, excepting at these intervals, though both were males, Mr. Brown never saw them disagree, nor shew any signs of ferocity towards the human race. Even lambs passed them unmolested. The Sultan had also two tame Lions, which, with their attendant, always came into the market to feed.†

Within the dominions of the Great Mogul, it is esteemed a royal privilege to hunt the Lion, and no

* Travels in India.

† Travels in Africa.

one can do it without especial permission from the king. When Sir Thomas Roe was at this court, as ambassador from James the First, a Lion and a Wolf broke into the court-yard of his house ; and it was not till he had sent to the palace, and obtained leave, that he dared to attack them.*

The roaring of the Lion, when in quest of prey, resembles the sound of distant thunder, and, being re-echoed by the rocks and mountains, appals the whole race of animals, and puts them to a sudden flight ; but he frequently varies his voice into a hideous scream or yell. He is supposed to be destitute of scent, and to hunt only by the eye.

He is commonly said to devour as much at once as will serve him for two or three days ; and, when satiated with food, to remain in a state of retirement in his den, which he seldom leaves, except for the purpose of prowling about for prey. His teeth are so strong, that he breaks the bones with perfect ease, and often swallows them along with the flesh. His tongue is furnished with reversed prickles, so large and strong, as to be capable of lacerating the skin. When he is enraged, or in want of food, he erects and shakes his mane, and beats his tail with considerable violence against his back and sides :† in this state, the inhabitants of the Cape say, it is certain death to any one who happens unfortunately to approach him ; but when the mane and tail are at rest, and the animal is in a placid humour, travellers may in general pass near him with safety.‡ The temper

* Voyage to India, in Churchill's Coll. i. 795.

† Grose i. 275.

‡ Kolben.

of the Lioness is said not to be so easily discovered : when, however, she is attacked with her young, she seems insensible to her own wounds, and with her head to the ground, and her eyes fixed upon those who would deprive her of them, she seldom fails either to save them, or perish in their defence.*

Kolben, who seems unaccountably to have been more partial to the flesh of rapacious animals than that of most others, says, that the Lion is frequently eaten at the Cape, and that the flavour is excellent, and not unlike that of venison.†

THE TIGER.‡

The Tiger is a native of Asia, and is met with as far north as China and Chinese Tartary ; but he is principally found in India, and the Indian Islands. His general size is somewhat under that of a Lion.

At the same time that he is the most ferocious, he is certainly the most beautiful of all quadrupeds, his colour being a fine orange yellow, white on the face, throat, and belly, and marked throughout by many long transverse stripes.

His disposition is fierce and sanguinary in the extreme, and there is no animal that he will not venture to attack : such furious combats have taken place between the Lion and Tiger, that both animals have frequently been known to perish, rather than either would give up the contest.

He commits horrid ravages among the flocks and

* Grose i. 275.

† Kolben ii. 96.

‡ SYNONYMS.—*Felis Tigris*. Linn.—Tigre. Buffon.—Royal Tiger: D'Obsonville.—Shaw's *Gen. Zool.* pl. 83.—Beau Quad. 186.

herds, in the countries where he resides, and neither the sight nor the opposition of man, in whose flesh he is said to delight, have any power to make him desist. When undisturbed, he plunges his head into the body of the animal, and drinks large draughts of blood, the sources of which are generally exhausted before his thirst is appeased.

His muscular strength is extremely great : we are informed, that a peasant in the East Indies, had a Buffalo fallen into a quagmire, and while he went to call for assistance, an immense Tiger came, that immediately drew out the animal, on which the united efforts of several men had no effect. When the people returned, the first object they beheld was the Tiger, with the Buffalo thrown over his shoulder, as a Goose is by a Fox : he was carrying him away with the feet upward, towards his den. As soon, however, as he saw the men, he let fall his prey, and instantly fled to the woods ; but he had previously killed the Buffalo, and sucked its blood.* It may here be observed, that some of the East Indian Buffaloes weigh above a thousand pounds, which is twice as heavy as the ordinary run of our black cattle : so that from hence we may form a conception of the enormous strength of this rapacious animal, that could thus run off with a weight at least twice as great as itself.

M. D'Obsonville was present at a terrible combat, between a Tiger and an Elephant, in the camp of Hyder Ali. The Tiger, not yet of full strength,

* Hamilton i. 264.

for he did not seem more than four feet high, was brought into the area, and fastened with a chain to a stake, round which he could turn freely. On the other side, a strong and well-taught Elephant, was conducted by his keeper. The amphitheatre was enclosed by a triple rank of lance-men. The action, when it commenced, was furious; the Elephant, however, after receiving two deep wounds, proved victorious. But from an encounter, like this, where the animal seemed a feeble one of his species, and was at the same time restrained by chains, we cannot form an accurate judgment of its powers in a state of liberty. M. D'Obsonville says, that although four or five Elephants would have nothing to fear from a greater number of Tigers, yet, from what he could remark from this exhibition, he was of opinion, that when the Tiger is in full possession of his faculties, he will be more than equal to the Elephant in single combat.*

We are told, but probably without foundation, that the Tiger will encounter the Crocodile. It is said, that, when he descends to the water to drink, the Crocodile raises his head above the surface, in order to seize him, as he does other animals, that come there for that purpose. When this is the case, the Tiger plunges his claws into the eyes of the Crocodile, the only vulnerable part within his reach; and the latter, immediately plunging under the water, drags the Tiger in along with him, and by this means, they are frequently both drowned

* D'Obsonville, 90.

together.—The Tiger, if taken young, may, for a short time at least, till his ferocity comes with his age, be in some measure domesticated, and rendered mild and playful to his keepers.

A beautiful young Tiger, brought not long ago from China, in the Pitt East-Indiaman, at the age of ten months, was so far domesticated, as to admit of every kind of familiarity from the people on board. It seemed to be quite harmless, and was as playful as a kitten. It frequently slept with the sailors in their hammocks, and would suffer two or three of them to repose their heads on its back, as upon a pillow, whilst it lay stretched out upon the deck. In return for this, it would, however, now and then steal their meat. Having one day stolen a piece of beef from the carpenter, he followed the animal, took the meat out of its mouth, and beat it severely for the theft; which punishment it suffered with all the patience of a Dog. It would frequently run out on the boltsprit: climb about the ship like a Cat; and perform a number of tricks, with an agility that was truly astonishing. There was a Dog on board; with which it would often play in the most diverting manner. This animal was taken on board the ship, when it was only a month or six weeks old, and arrived in this country before it had quite completed a year. How much longer its good humour might have continued, it is impossible to say: but it is very much to be doubted, whether the same innocent playfulness would have formed a part of its character, when

arrived at its full state of maturity.* D'Obsonville seems, however, of opinion, that the Tiger may be in some measure educated, but that the Eastern nations deem it useless to make subservient to their amusement an animal, whose strength is the more dangerous, from its natural gloomy ferocity, which, roused by certain circumstances, might be found only to have slept, and by no means to have been eradicated.†

The method of the Tiger's seizing his prey is, by concealing himself from view, and springing, with a horrible roar, on his victim, which he carries off into the recesses of the forest, having first, if undisturbed, sucked out the blood. His voice, in the act of springing on the victim, is said to be hideous beyond conception; and we are told that, like the Lion, if he misses his object, he makes off without repeating the attempt. He seems to prefer mankind to any other prey, when he can procure such by surprise; but he seldom makes an open attack on any animal capable of resistance.

In the beginning of the present century, says Mr. Pennant, "a company, seated under the shade of some trees, near the banks of a river in Bengal, were surprised by the unexpected sight of a Tiger, preparing for its fatal spring; when a lady, with almost unexampled presence of mind, furl'd a large umbrella in the animal's face, which instantly retired, and thus gave them an opportunity of escaping from so terrible a neighbour."

* Bew. Quad. 187.

† D'Obsonville, 82.

Another party had not the same good fortune, but, in the height of their entertainment, in an instant, one of their companions was seized and carried off by a Tiger.* But the fatal accident, which so lately occurred in the East-Indies, must be still fresh in the memory of all who read the dreadful description given by an eye witness of the scene. “ We went (says the Narrator) on shore on Sangar Island, to shoot deer, of which we saw innumerable tracks, as well as of Tigers ; notwithstanding which, we continued our diversion till near three o’clock, when, sitting down by the side of a jungle to refresh ourselves, a roar like thunder was heard, and an immense Tiger seized on our unfortunate friend,† and rushed again into the jungle, dragging him through the thickest bushes and trees, every thing giving way to his monstrous strength ; a Tigress accompanied his progress. The united agonies of horror, regret, and fear, rushed at once upon us. I fired on the Tiger ; he seemed agitated : my companion fired also, and, in a few moments after this, our unfortunate friend came up to us, bathed in blood. Every medical assistance was vain, and he expired in the space of twenty-four hours, having received such deep wounds from the teeth and claws of the animal, as rendered his recovery hopeless. A large fire, consisting of ten or twelve whole trees, was blazing by us at the time this accident took place, and ten or more of the natives were with us.

* Penn. Quad. i. 258.

† Mr. Monro, the son of Sir Hector Monro, Bart. This fatal event took place in the year 1792.

The human mind can scarcely form any idea of this scene of horror. We had hardly pushed our boat from that accursed shore, when the Tigress made her appearance, almost raging mad, and remained on the sand all the while we continued in sight."

On the borders of Tartary, Tigers are very frequent; and in so populous an empire as China, it would seem impossible for them to have remained so long unextirpated. In the Northern roads, hundreds of travellers are seen with lanthorns carried before them, to secure them from these ravenous animals.* In some parts of India, they are particularly fatal to wood-cutters and labourers about the forests; and they have been known to swim to boats at anchor, at little distance from the shore, and snatch the men from aboard.† In Java, they are much dreaded, from their very frequently carrying off the travelling Javanese: when any person of consequence goes out into the country, he has with him men who blow incessantly a kind of small French-horns, the shrill sound of which frightens them entirely away.‡ The hunting of Tigers is a favourite amusement with some of the Eastern princes, who go in search of them, attended by considerable bodies of men, well mounted and armed with lances. As soon as they are roused, they are instantly attacked by pikes, arrows, and sabres, on all sides, and presently destroyed. This diversion is, however, always attended with danger; for if the Tiger feels himself wounded, he

* Penn. Outl. of Gl. iii. 90.
 Verg iv. 162.

§ Church.

† Ibid, ii 152.

‡ Thun-

seldom retreats without sacrificing some one to his vengeance.* There are men, who, covered with a coat of mail, or even armed only with a shield, a poniard, and a short scymetar, will dare to attack these blood-thirsty animals singly, and fight with them life for life : for, in combats of this nature, they have no other alternative, but to vanquish or fall.

The inhabitants of these countries predict their success or losses from this animal. If they are marching against an enemy, and a Tiger is seen flying nearly in the same direction, victory is always supposed to be certain : but as it must of course happen, that the reverse frequently takes place, they are never in want of a subterfuge to justify their augury.

The Tigress, like the Lioness, produces four or five young at a litter : she is at all times furious ; but her rage rises to the utmost extremity, when robbed of her young. She then braves every danger, and pursues her plunderers, who are often obliged to release one of them, in order to retard her motion. She stops, takes it up, and carries it to the nearest covert, but instantly returns, and renews her pursuit, even to the very gates of buildings, or the edge of the sea ; and when her hope of recovering them is lost, she expresses her agony by howlings so hideous, that they excite terror wherever they reach.

The roar of the Tiger, says M. D'Obsonville, is

* Church.

extremely horrid ; it begins by intonations and inflections at first deep, melancholy and slow ; presently it becomes more acute, when suddenly collecting himself, he utters a violent cry, that is interrupted by long tremulous sounds, which, together, make a distracting impression upon the mind. It is chiefly in the night that this is heard, when silence and darkness add to the horror, and his roarings are repeated by the echoes of the mountains.*

The skin is held in high esteem in all the Eastern countries, and particularly in China, where the Mandarins cover their seats of justice with it. It is also applied to many other ornamental and useful purposes. The Indian physicians attribute medical virtues to various parts of the Tiger's body. †

THE LEOPARD. †

The Leopard is about four feet in length, of a yellowish colour, and marked with numerous annular black spots. The tail is about two feet and a half long. It is an inhabitant of Senegal, Guinea, and most parts of Africa, delighting in the thickest forests, and frequenting the borders of rivers to wait for such animals as resort there to quench their thirst.

In general appearance, these animals are fierce ; the eye is restless, the countenance cruel, and all

* D Obionville, 88. † Ibid, 82.

† SYNONYMS.—*Felis Leopardus*. Linn.—Leopard. Buffon.—Shaw's *Gen. Zool. pl.* 83.—Bew. *Quad.* 193.

the motions short and precipitate. They attack and devour every thing they meet, sparing neither man nor beast: and when the wild animals are insufficient to satiate their cruel appetite, they descend in great numbers from their lurking places, and commit dreadful slaughter among the numerous herds of cattle which are to be found in the plains. They tear their prey, both with their teeth and claws; and though continually devouring, their appearance is always thin and meagre.*

In the year 1708, if we may believe the account of Kolben, two Leopards, a male and female, with three young ones, entered a sheep-fold at the Cape. The old ones killed near a hundred sheep, and regaled themselves with the blood. When they were satiated, they tore a carcass into three pieces, and gave one of these to each of the young ones. They then took each a whole sheep, and thus laden with prey, began to move off. Having been, however, observed, they were way-laid on their return, and the female and three young ones killed; but the male effected his escape.† The same writer also informs us, that the Leopard will not eat carrion, nor deign to touch what has been killed by any other beast.

The Negroes take them in pitfalls, covered slightly over with hurdles, on which a piece of flesh is placed as a bait.

The late Sir Ashton Lever had one of these animals, which he kept in a cage at Leicester-house.

* Penn. Quad.—Church.

† Kolben ii. 98.

It was become so tame, as always to seem highly pleased and gratified by caresses and attention, purring and rubbing its sides against the cage like a cat. Sir Ashton gave it to the royal menagerie in the Tower, where a person, before acquainted with it, saw it, after an interval of more than a year, notwithstanding which, it appeared instantly to recognize him, and began as usual to renew its caresses.*

The flesh is white and well-tasted, eating, says Kolben, much better than the finest veal. It is both nourishing and delicious; that of the young is as tender as chicken.†

The skins are brought into Europe, where they are held in high estimation: some of the most beautiful selling for more than ten guineas each.

THE HUNTING LEOPARD.‡

The Hunting Leopard is about the height of a large Greyhound, of a light tawny brown colour, marked with numerous circular black spots. The legs and tail are long; its form is altogether more lengthened than the Tiger's, and the chest narrower. It is a native of India.

This animal is frequently tamed, and used in the chase of Antelopes. It is carried in a kind of small waggon, chained and hooded, lest, on approaching the herd, it should be too precipitate, or not make choice of a proper animal. When first unchained, it does not immediately spring towards its prey, but

* Church. † Kolben ii. 97.

‡ SYNONYMS.—*Felis jubata?* Linn.—*Le Guepard.* Buffon.—Shaw's *Gen. Zool.* pl. 86.

winds with the utmost caution along the ground, stopping at intervals, and carefully concealing itself, till a favourable opportunity offers: then it darts on the herd with astonishing swiftness, and overtakes them by the rapidity of its bounds. If, however, in its first attempt, which consists of five or six amazing leaps, it does not succeed, it loses its breath, and, finding itself unequal in speed, stands still for a while to recover: then giving up the point for that time, quietly returns to its keeper.*

THE CAPE CAT. †

This is an elegant animal, and is found in a wild state, in the mountains at the Cape of Good Hope. It is considerably larger than the Domestic Cat. The colour is a bright tawny, marked on the back with oblong black streaks, and in the other parts with blotches of the same. A skin, measured by Mr. Pennant, was found to be three feet, from the nose to the tail.

In their native mountains, these animals are very destructive to Rabbits, young Antelopes, Lambs, and even to all the feathered tribe. In disposition, however, they are not so fierce as the generality of their tribe; but, when taken, may be easily rendered tame. Labat says of them, though apparently without sufficient foundation, that their ap-

* Penn. Quad. i. 264.

† SYNONYMS.—*Felis Capensis*. Linn.—Tiger Cat of the Cape of Good Hope. Forster.—Tiger Bush Cat. Kelten.—Nsussi. Labat.—Cape Cat. Pennant.—Shaw's Gen. Zool. pl. 88.

pearance bespeaks cruelty, and their eyes fierceness.

When Dr. Forster and his son touched at the Cape, in the year 1795, one of these animals was offered to him to purchase : but from its having had a broken leg, he refused it, under the apprehension that it would not be able to bear a passage to Europe. It was brought in a basket to his apartment, where he kept it above four-and-twenty hours, which gave him an opportunity, not only of describing it, but, in some measure, of observing its manners and economy. These seemed perfectly analagous to those of our domestic Cats. It ate fresh raw meat, and appeared very much to attach itself to its feeders and benefactors. In its disposition, it was gentle, and had been rendered perfectly tame. After Dr. Forster had fed it a few times, it followed him like a tame favourite Cat. It was fond of being stroked and caressed ; rubbed its head and back against the person's cloaths who fed it, and seemed very desirous of being noticed. It purred, as our domestic Cats do, when they are pleased. At this time, it was about nine months old, and had been taken, when quite young, in the woods.*

THE WILD CAT. †

The Wild Cat, from which all the varieties of the Domestic Cat have proceeded, is a native of Europe and Asia, and is even yet to be found in

* Phil. Tran. vol. 71. p. 3. paper by Dr. Forster.

† SYNONYMS.—*Felis Catus*. *Linn.*—Common Cat, *Penn.*—Chat Sauvage. *Buffon*. *Berv. Quad.* 205. 203.

some of the woody and more unfrequented parts of our island. It has a larger head and stronger limbs than the Domestic Cat ; and its colour is a pale yellowish-grey, with dusky stripes, those on the back running lengthwise, and those on the sides transversely, and in a curved direction. The tail is shorter than in the domestic kinds, and is barred with dusky rings. It breeds in hollow trees, and produces four young at a litter; and, in the places where it inhabits, it makes destructive havock among the neighbouring Lambs, kids, and poultry.

The Wild Cats are sometimes taken in traps, and sometimes by shooting : in the latter case it is dangerous only to wound them, for they have frequently been known to attack the person who injured them ; and their strength is so great as to render them no despicable enemy.

At Barnboro', a village betwixt Doncaster and Barnsley, in Yorkshire, there is a tradition extant of a serious contest that once took place between a man and a Wild Cat. The inhabitants say, that the fight commenced in an adjacent wood, and that it was continued from thence into the porch of the church. We do not recollect in what manner it is reported to have begun ; they, however, tell us, that it ended fatally to both combatants, for each died of the wounds he received. A rude painting in the church commemorates the event, and, (as in many similar traditions), the accidentally natural red tinge of some of the stones has been construed into bloody stains, which all the properties of soap and water have not been able to efface.

In Jamaica, from the quantity of food at all seasons to be procured in the woods and mountains, the Domestic Cats are very apt to become wild : to remedy this inconvenience the country people frequently split or cut off their ears, the more to expose these tender organs to the rain or dews, and this is said to be generally effectual.*

The colours of the DOMESTIC CAT† are very various, and its manners and disposition seem to be entirely changed by education ; and although it does not exhibit the affectionate attachment of the Dog, yet it is not destitute either of gentleness or gratitude.

A very singular instance of this is recorded in Mr. Pennant's Account of London. Henry Wriothesly, Earl of Southampton, the friend and companion of the Earl of Essex, in his fatal insurrection, having been some time confined in the Tower, was one day surprised by a visit from his favourite Cat, which, says tradition, reached its master, by descending the chimney of his apartment.‡ In proof of the sagacity of these animals, we adduce the following instances :

A friend of the Editor possessed a Cat and Dog, which not being able to live in peace together, had several contentious struggles for the mastery, in

* Browne, 485.

† Chat Domestic, *Buffon*.

‡ Although this anecdote is brought forward on the authority of Mr. Pennant, we must confess that it seems too absurd to be allowed any degree of credit.

which, in the end, the Dog so completely prevailed, that the Cat was driven entirely away, and forced to seek for shelter elsewhere. Several months elapsed, during which the Dog alone possessed the house. At length, however, he was poisoned by a female servant, whose nocturnal visitors he had too often betrayed, and was soon afterwards carried out lifeless into the court before the door. The Cat, from a neighbouring roof, was observed to watch the motions of several persons who went up to look at him, and when all were retired, he descended, and crept, with some degree of caution, into the place. He soon ventured to approach, and, after having frequently patted the Dog with his paw, appeared perfectly sensible that his late quarrelsome companion could no more insult him; and from that time he quietly returned to his former residence and habits.

A Cat frequented a closet, the door to which was fastened by a common iron latch. A window was situated near the door. When the door was shut the Cat gave herself no uneasiness. As soon as she was tired of her confinement, she mounted on the sole of the window, and with her paws dexterously lifted the latch and came out. This practice she continued for years.*

A physician of Lyons was, in July, 1800, requested to inquire into a murder that had been committed on a woman of that city. In consequence of this request he went to the habitation

* Emellie.

of the deceased, where he found her extended lifeless on the floor and weltering in her blood. A large white Cat was mounted on the cornice of a cupboard, at the far end of the apartment, where he seemed to have taken refuge. He sat motionless, with his eyes fixed on the corpse, and his attitude and looks expressing horror and affright. The following morning he was found in the same station and attitude; and when the room was filled with officers of justice, neither the clattering of the soldiers' arms, nor the loud conversation of the company, could in the least degree divert his attention. As soon, however, as the suspected persons were brought in, his eyes glared with increased fury, his hair bristled, he darted into the middle of the apartment, where he stopped for a moment to gaze at them, and then precipitately retreated under the bed. The countenances of the assassins were disconcerted, and they were now, for the first time during the whole course of the horrid business, abandoned by their atrocious audacity.*

Few animals exhibit more maternal tenderness, or shew a greater attachment to their young, than the Cat; the assiduity with which she attends them, and the pleasure which she seems to take in all their playful tricks, afford a most grateful entertainment to every observer of nature. She has also been known not only to nurse with tenderness the young of different individuals, but even the young of other kinds of animals.

* Monthly Magazine for January, 1801,

“My friend, (says Mr. White, in his Natural History of Selborne) “had a little helpless *Leveret* brought to him, which the servants fed with milk from a spoon; and about the same time his Cat kittened, and the young were dispatched and buried. The Hare was soon lost, and was supposed, as with most fondlings, to have been killed by some Dog or Cat. However, in about a fortnight, as the master was sitting in his garden, in the dusk of the evening, he observed his Cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, such as they use towards their kittens, and something gamboling after, which proved to be the *Leveret*, that the Cat had supported with her milk, and continued to support with great affection.—Thus was a granivorous animal nurtured by a carnivorous and predacious one!

“This strange affection was probably occasioned by that desiderium, those tender maternal feelings, which the loss of her kittens had awakened in her breast; and by the complacency and ease she derived to herself from the procuring of her teats to be drawn, which were too much distended with milk; from habit, she became as much delighted with this foundling as if it had been her real offspring.”

“A boy (says the same gentleman) had taken three young *Squirrels* in their nest. These small creatures he put under a Cat who had lately lost her kittens, and finds that she nurses and suckles them with the same assiduity and affection as if they were her own offspring.

“ So many people went to see the little Squirrels suckled by a Cat, that the foster-mother became jealous of her charge, and in pain for their safety; and, therefore, hid them over the ceiling, where one died.—This circumstance shewed her affection for these foundlings, and that she supposed the Squirrels to be her own young.”*

These incidents form no bad solution of that strange circumstance, which grave historians, as well as poets, assert, of exposed children being sometimes nurtured by female wild beasts that probably had lost their young. For it is not one whit more marvellous that *Romulus* and *Remus*, in their infant state, should be nursed by a she Wolf, than that a poor little sucking Leveret, or a set of young Squirrels, should be fostered and cherished by a bloody grimalkin.

To preserve their fur clean, and especially their whiskers, cats wash their faces, and generally quite behind their ears, every time they eat. As they cannot lick those places with their tongues, they first wet the inside of the leg with the saliva, and then repeatedly rub their faces with it. This Dr. Darwin esteems an act of reasoning, because, he says, a means is used to produce an effect, which means seems to be acquired by imitation, like the greatest part of human arts.

A friend of the Doctor saw a Cat catch a Trout, by darting upon it in a deep clear water at the mill, at

* White's Naturalist's Calendar, 94, 95.

Weaford, near Litchfield. The Cat belonged to Mr. Stanley, who had often seen her catch fish in the same manner in the summer, when the mill-pool was drawn so low that the fish could be seen. Other Cats have been known to take fish in shallow water, as they stood on the bank. This he thinks a natural art of taking prey, which their acquired delicacy by domestication, has, in general, prevented them from using, though their desire of eating fish continues in its original strength.

These animals seem to possess something like an additional sense, by means of their whiskers, which have perhaps some analogy to the antennæ of Moths and Butterflies. The whiskers of Cats consist not only of long hairs on their upper lips, but they have also four or five long hairs standing up from each eye-brow, and also two or three on each cheek ; all which, when the animal erects them, make with their points so many parts of the periphery of a circle, of an extent at least equal to the circumference of any part of their own bodies. With this instrument, it is supposed that, by a little experience, they can at once determine whether any aperture amongst hedges or shrubs, in which animals of this genus live in their wild state, is large enough to admit their bodies ; which to them is a matter of the greatest consequence, whether pursuing or pursued. They have likewise a power of erecting and bringing forward the whiskers on their lips ; which probably is for

the purpose of feeling, whether a dark hole be farther permeable.*

Cats are very seldom, like the Dog, attached to our persons, all their attachment seems to be confined to the houses where they have been brought up. Instances are very common of Cats returning of their own accord to the place from whence they have been carried, though at the distance of many miles, and even across rivers where they could not possibly have had any knowledge either of the road or the direction that would lead them to it. This may perhaps arise from their being acquainted there with all the retreats of the Mice, and all the passages and outlets of the house, and from their dislike to acquire the knowledge of these conveniences in their new habitation.

No experiment can be more beautiful than that of setting a kitten for the first time before a looking-glass. The animal appears surprised and pleased with the resemblance, and makes several attempts at touching its new acquaintance; and, at length, finding its efforts fruitless, it looks behind the glass, and appears highly surprised at the absence of the figure: it again views itself; tries to touch it with its foot; suddenly looking at intervals behind the glass, it then becomes more accurate in its observations, and begins, as it were, to make experiments, by stretching out its paw in different directions; and when it finds that these motions are answered in every respect by the figure

* Zoonomia.

in the glass, it seems, at length, to be convinced of the real nature of the image. The same is the case with the Dog at an early age.

The sleep of the Cat, though generally very light, is, however, sometimes so profound, that the animal requires to be shaken pretty briskly before it can be awakened. This particularity takes place chiefly in the depth of winter, and especially on the approach of snowy weather. At such periods also, as well as at some others, the animal diffuses a fragrant smell, somewhat like that of cloves.

It is generally remarked, that Cats can see in the dark ; but, though this is not absolutely the case, it is certain that they can see with much less light than most other animals, owing to the peculiar structure of their eyes, the pupils of which are capable of being contracted or dilated, in proportion to the degree of light by which they are affected. In the day-time, the pupil of the Cat is perpetually contracted, and sometimes into a mere line ; for it is with difficulty that it can see by a strong light : but in the twilight the pupil resumes its natural roundness, and the animal enjoys perfect vision. . It appears somewhat singular, that, on plunging the head of a Cat into water, although the animal be exposed to a very bright light, the pupil should become immediately expanded to all its width. This, however, is to be accounted for upon optical principles.*

It has been remarked, that the eyes of Cats

* Martyn, iii. 192.

always shine with a bright light when they are in the dark. The Rev. William Jones was induced to make some observations on this circumstance, from having observed, among the eyes of some Sheep and Oxen, that he had procured for dissection, that one of them shone in the day-time much in the same manner as the eyes of those animals do in the dark. On examining into this, he found that if his hand was placed between the nearest window and the extremity of the optic nerve (a part of which, nearly an inch long, remained with the eye, and was accidentally pointed towards the window) the light immediately disappeared.*

From this he was led to consider, whether the light that appears in the eyes of some animals in the night time, is really a *reflection* of light from the eye, as is commonly supposed; or, whether it does not rather *pass into the eye, through the optic nerve, from the body of the animal*? It is not easy to conceive how this shining light can be occasioned by a reflection of light from the bottom of the eye, when the light to be reflected (as in a dark night) is not visible before its entrance into the eye. If a candle be held before the eyes of a Dog, and a person places himself in the line of reflection, the light will be visibly reflected from his eyes, because the illumination is sufficiently strong; but where there is no visible illumination at all, this cannot account for the like effect. It is, therefore, more reasonable to suppose that this

* Essay on the First Principles of Natural Philosophy.

appearance is owing to a light from within the body of the animal, which, being weaker than the light of the day, but stronger than the light of the night, is visible only in the dark. This light is probably similar to that which we observe in putrifying meat, fish, rotten-wood, phosphorus, and the Glow-worm.

The fur of the Cat, being generally clean and dry, readily yields electric sparks when rubbed; and, if a clean and perfectly dry domestic Cat be placed, in frosty weather, on a stool with glass feet, or insulated by any other means, and rubbed for a little time, in contact with the wire of a coated vial, the vial, by this means, become effectually charged.

In the time Howel Dda, *Howel the Good*, Prince of Wales, who died in the year 948, laws were made, both to preserve and fix the prices of different animals; among which the Cat was included, as being, at that early period, of great importance, on account of its scarcity and utility. The price of a kitten before it could see, was fixed at one penny; till proof could be given of its having caught a Mouse, two-pence; after which it was rated at four-pence; a great sum in those days, when the value of specie was extremely high. It was likewise required, that it should be perfect in its senses of hearing and seeing, should be a goodmouser, have its claws whole, and, if a female, be a careful nurse. If it failed in any of these qualities, the seller was to forfeit to the buyer the third part of its value,—If any one

should steal or kill the Cat that guarded the Prince's granary, he was either to forfeit a milch ewe, her fleece, and lamb, or as much wheat as, when poured on the Cat, suspended by its tail, (its head touching the floor) would form a heap high enough to cover the tip of the tail.—From these circumstances we may conclude, that Cats were not originally natives of these islands; and from the great care taken to improve and preserve the breed of this prolific creature, we may with propriety suppose, that they were but little known at that period.*

When M. Baumgarten was at Damascus, he saw there a kind of hospital for Cats: the house in which they were kept was very large, walled round, and said to be quite full of them. On enquiring into the origin of this singular institution, he was told, that Mahomet, when he once lived here, brought with him a Cat, which he kept in the sleeve of his gown, and carefully fed with his own hands. His followers in this place, therefore, ever afterwards, paid a superstitious respect to these animals, and supported them in this manner by public alms, which were very adequate to the purpose.† The patience, craft, vigilance, utility, and cleanliness of the Cat have also obtained for it the highest degree of protection in the Eastern mythology, so far indeed as to have it esteemed the noblest species of its genus.‡

* Penn. Brit. Zool. i. 83.
Cell. i. 477.

† Baumgarten's Travels. Churchill's
‡ D'Obsonville, 80.

The following curious fact in the natural history of the Cat, is related by Dr. Anderson, in his entertaining work, the *Recreations in Agriculture*:—A Cat belonging to Dr. Coventry, the ingenious Professor of Agriculture in Edinburgh, which had no blemish at its birth, lost its tail by accident when it was young. It had many litters of kittens, and in every one of these there was one or more that wanted the tail, either in whole or in part.

“A Cat (says Browne) is a very dainty dish among the Negroes!”*

THE ANGORA CAT.†

The Angora Cat is a variety of the domestic species. When M. Sonnini was in Egypt, he had one of them in his possession for a long time. It was entirely covered with long silky hairs: its tail formed a magnificent plume, which the animal elevated, at pleasure, over its body. Not one spot, nor a single dark shade, tarnished the dazzling white of its coat. Its nose and lips were of a delicate rose colour. Two large eyes sparkled in its rounded head, one of which was a light yellow, and the other a fine blue.

This beautiful animal possessed even more loveliness of manners, than grace in its attitudes and movements. With the physiognomy of goodness, she possessed a gentleness truly interesting. How ill so ever any one used her, she never attempted

* History of Jamaica, 485.

† SYNONYMS.—*Felis Angorensis*. Linn.—Chat d'Angora. Buffon. Angora Cat. Penn.

to advance her claws from their sheaths. Sensible to kindness, she licked the hand which caressed, and even that which tormented, her. On a journey she reposed tranquilly on the knees of any of the company, for there was no occasion to confine her ; and if M. Sonnini, or some other person she knew, was present, no noise whatever gave her the least disturbance.

In Sonnini's solitary moments, she chiefly kept by his side ; she interrupted him frequently in the midst of his labours or meditations, by little caresses extremely affecting, and generally followed him in his walks. During his absence, she sought and called for him incessantly, with the utmost inquietude ; and, if he was long before he re-appeared, she would quit his apartment, and attach herself to the person of the house where he lived ; for whom, next to himself, she entertained the greatest affection. She recognized his voice at a distance, and seemed to find him again, each time, with increased satisfaction. Her advances were not oblique, her gait was frank, and her look as gentle as her character : she possessed, in a word, the disposition of the most amiable Dog, beneath the brilliant fur of a Cat.

“ This animal (says M. Sonnini) was my principal amusement for several years. How was the expression of its attachment depicted upon its countenance ! How many times have her tender caresses made me forget my troubles, and consoled me in my misfortunes ! My beautiful and interesting companion, however, at length perished. After

several days of suffering, during which I never forsook her, her eyes, constantly fixed on me, were at length extinguished; and her loss rent my heart with sorrow.'*

THE WEESELS.

THE Weesel tribe was divided by Linnæus into two genera, *Viverra* and *Mustela*; the latter of which also contained the Otters. Mr. Pennant and Dr. Shaw have, however, with great propriety, united these two, and separated from them the Otters, as possessing webbed feet, a character sufficiently discriminating: to these Dr. Shaw has appropriated the generic name of *Lutræ*.

The present genus, therefore, as thus corrected, contains animals which have six sharpish cutting-teeth, with the canine-teeth somewhat longer; a long and slender body, with short legs; a sharpened visage; and, in most species, a longish tail. In some of this tribe also, the tongue is smooth, and, in others, it is furnished with prickles pointing backwards.

THE ICHNEUMON.†

The Ichneumon is a native of Egypt, Barbary, and the Cape of Good Hope. Its length, from the

* Sonnini, i. 292.

† SYNONYMS.—*Viverra* Ichneumon. *Linn.*—Egyptian Ichneumon. *Kerr.*—Great Mangouste.—*Sm. Buffon.*—Ichneumon. *Penn.*—*Shaw's Gen. Zool.* pl. 92.

tip of the nose to the end of the tail, is from twenty-four to forty-two inches, of which the tail takes near the half. Its colour is pale reddish grey, each hair being mottled with brown or mouse colour. The eyes are of a bright red, the ears almost naked, small and rounded, and the nose long and slender. The tail is very thick at the base, from whence it gradually tapers almost to a point, where it is slightly tufted. The hair is hard and coarse, and the legs are short.

In Egypt the Ichneumon is considered as one of the most useful and estimable of animals, being an inveterate enemy to the Serpents and other noxious reptiles, which infest the neighbourhood of the torrid zone. It attacks without dread that most fatal of Serpents the *Cobra di Capello*, or Hooded Snake,* and, when it receives a wound in the combat, instantly retires, and is said to obtain an antidote from some herb, after which it returns to the attack, and seldom fails of victory. It is a great destroyer of the eggs of Crocodiles, which it digs out of the sand, and even kills multitudes of the young of those terrible creatures. It was not, therefore, without reason, that the ancient Egyptians ranked the Ichneumon among their deities.

It is at present domesticated, and kept in houses in India and Egypt, where it is found more useful than a Cat in destroying Rats and Mice. It is easily tamed, is very active, and springs with great agility on its prey. It will glide

* *Celuber Naja* of Linnæus.

along the ground, like a Serpent, and seem as if without feet. It sits up like a Squirrel, and eats with its fore feet; catches any thing that is flung to it. It is a great enemy to Poultry, and will feign itself dead till they come within its reach. It is said to be extremely skilful in seizing the Serpents by the throat, in such a manner as to avoid receiving any injury.* *Lucan* has beautifully described the same address of this animal in conquering the Egyptian Asp.—

Aspidas ut *Pharias* cauda solertior hostis
Ludit, et iratas incerta provocat umbra :
Obliquansque caput vanas serpentis in auras
Effusæ toto comprehendit guttura morsu
Lentiferam citra saniem : tunc irrita pestis
Exprimitur, faucesque fluunt pereunte veneno.

Thus oft th' *Ichneumon*, on the banks of *Nile*,
Invades the deadly *Aspic* by a wile;
While artfully his slender tail is play'd,
The Serpent darts upon the dancing shade;
Then, turning on the foe, with swift surprise,
Full on the throat the nimble seizer flies :
The gasping Snake expires beneath the wound,
His gushing jaws with poisonous floods abound,
And shed the fruitless mischief on the ground.

“I had (says M. D'Obsonville, in his Essays on the Nature of various foreign Animals), an *Ichneumon* very young, which I brought up: I fed it at first with milk, and afterwards with baked meat, mixed with rice. It soon became even tamer than a Cat, for it came when called, and followed me, though at liberty, into the country.

“ One day I brought to him a small Water Serpent alive, being desirous to know how far his instinct would carry him against a being with which he was hitherto totally unacquainted. His first emotion seemed to be astonishment mixed with anger, for his hair became erect ; but, in an instant after, he slipped behind the reptile, and with a remarkable swiftness and agility leaped upon its head, seized it, and crushed it between his teeth. This essay, and new aliment, seemed to have awakened in him his innate and destructive voracity, which, till then, had given way to the gentleness he had acquired from his education. I had about my house several curious kinds of fowls, among which he had been brought up, and which, till then, he had suffered to go and come unmolested and unregarded ; but, a few days after, when he found himself alone, he strangled them every one, ate a little, and, as appeared, had drank the blood of two.”*

In a wild state, the Ichneumon is said, principally to frequent the banks of rivers, and in times of flood to approach the higher grounds, and inhabited places, in quest of prey. It is reported to swim and dive occasionally, in the manner of an Otter, and to continue beneath the water for a great length of time. Its voice is very soft, somewhat like a murmur, and, unless it is struck or irritated, it never exerts it. When it sleeps, it folds itself up like a ball, and is not easily awaked.

These animals are short lived, but grow very rapidly. In our temperate climates, they cannot, without great difficulty, be either reared or preserved. Whatever care be taken, the frosts incommode them, and they generally fall a victim to the change.

THE STRIATED WEESEL.*

This is one of three or four species of Weasel, natives of America, whose only mode of defence against their enemies, and it is a perfectly secure one, is to emit from their bodies a vapour, so fetid, that few animals can bear to come within its influence. Cattle that are near are so alarmed, as to utter the most dreadful bellowings. Dogs are indeed sometimes trained to hunt them; but, in order to relieve themselves, they are under the necessity of frequently thrusting their noses into the earth. It may be smelt to an amazing distance; and so abominable is the stench, as to affect provisions in such a manner, that nothing can afterwards make them eatable. When irritated or killed in or near a dwelling, the whole place becomes infected; the cloaths, provisions, and all the rooms, are, in a few minutes, so saturated with the vapour, that no one can live in or use them for a very long time. Cloaths, although they are several times washed, soaked, and dried in the sun, retain their smell sometimes for weeks.

* SYNONYMS.—*Viverra Putorius*. Linn.—Skunk. Fiskatta. Polecat Kaln. Catesby.—Striped Skunk. Kerr.—Conepate. Buffon.—Striated Weasel. Penn.—Shaw's Gen. Zool. pl. 94.

Professor Kalm says, that one of these creatures was one day perceived in his cave, when a woman, unthinkingly, attacked and killed it: the whole place was in a moment filled with such a dreadful odour, that the female was taken ill, and continued so for several days; and the provisions were so infected, that they were all thrown away.*

These animals have, by travellers, had indiscriminately the names of *Devil's Children*, *Stinking Beasts*, &c.

Strange as it may appear, they are sometimes domesticated; and as they never emit their stench, except when alarmed or irritated, they are not dreaded in this state: "but (an eminent Zoologist justly observes) they ought surely to be treated with the highest attention."

THE HONEY-WEESEL OR RATEL. †

This animal, which is a native of the Cape, is, from the nose to the tail, about two feet long. Its back is ash-coloured, and along its sides runs a light grey stripe, that divides this from its belly, which is black. Its legs are short, and its claws long, and formed for burrowing: it lives in holes under ground, and is said to be very fetid.

It seems formed by nature to be the adversary of the Bees, and the unwelcome visitor of their habitations, and is endued with a particular faculty for discovering and attacking them within their en-

* Kalm's Travels.

† SYNONYMS.—*Viverra Mellivora*. Linn.—Honey-weasel. Shaw.—*Ratel*. Sparrman.—Ezra. Quad. 249.

trenchments. As a man, placed at the mast-head, can most easily descry a sail or land at a great distance in the evening, so probably this time of the day is the most convenient for the Ratel to look out for his food ; for he is likewise said to be particularly attentive to his business about sun-set, when he will sit and hold one of his paws before his eyes, in order to modify the rays of the sun, so as to render them inoffensive to his organs of sight, and, at the same time, to have a distinct view of the object of his pursuit : and when, in consequence of peering in this manner on each side of his paw, opposite to the sun, he sees any Bees fly, he knows that they are at this time going straight forward to their own habitation, and consequently takes care to keep in the same direction, in order to find them. He has, besides, the sagacity to follow the *Cuculus Indicator*, a little bird, which flies on, by degrees, with a peculiar and alluring note, and guides him to the Bee's nest.

As the Ratel's hairs are stiff and harsh, so its hide is tough, and the animal itself difficult to kill. The Colonists and Hottentots both assert, that it is almost impossible to kill this creature, without giving it a great number of violent blows on the nose ; on which account they destroy it by shooting it, or by plunging a knife into its body.—The shortness of his legs will not permit him to make his escape by flight, when pursued by the hounds : he is able, however, sometimes to extricate himself from their clutches, by biting and scratching them

in a most terrible manner ; while, on the other hand, he is perfectly well defended from the assaults of their teeth by the toughness of his hide : for, when a hound endeavours to bite him, it can lay hold only on the Ratel's tough hide, which, in this case, instantly separates from the creature's body or flesh, as it is reported to lie loose from the skin, as within a sack ; so that, when any one also catches hold of him by the hind part of his neck, and that even pretty near his head, he can turn round, as it were, in his skin, and bite the arm that seizes him. It is a remarkable circumstance, that such a number of Hounds, as, collectively, are able to tear a Lion, of a moderate size, in pieces, are said sometimes to be obliged to leave the Ratel only dead to appearance. Is it not, therefore, probable, that nature, which seems to have destined the Ratel for the destruction of Bees, may have bestowed on it a hide so much tougher than those she has given to other animals of the Viverra kind, merely for the purpose of defending it from the stings of these insects ?

Those Bees' nests that are built up in trees, are in no danger whatever from the Ratel. In the first transports of his rage, at having sought after these Bees in vain, he gnaws and bites the trunks of the trees ; and these bites are sure marks for the inhabitants of the country, that a Bee's-nest is to be found in them. I should myself, says Dr. Sparrman, have entertained many doubts concerning these properties attributed to the Ratel, had I not obtained various accounts of this curious animal,

exactly corresponding with each other, from many experienced farmers and Hottentots, living in different parts of the Cape of Good Hope.*

THE CIVET. †

The Civet is somewhat more than two feet long, and has a tail about half the length of its body. The ground colour is yellowish ash-grey, beautifully marked with large blackish or dusky spots. The hair is coarse, and along the back stands up, so as to form a sort of mane. The body is thickish, and the nose sharp, and black at the tip. Three black stripes proceed from each ear, and end at the throat and shoulders. The eyes shine in the dark. It is an inhabitant of several parts of Africa and India, and it will not breed in more temperate regions, though it lives and appears in perfect health in them: in its own climate it is very prolific. It is active and nimble, jumping about like a Cat, and running very swiftly. It feeds on small animals, but particularly on birds, which it takes by surprise; and it sometimes commits depredations among the poultry, when it can steal into a farm-yard. It is very voracious, and will sometimes roll itself, for a minute or two, on meat that is given to it, before it eats it. One that Barbot had at Guadaloupe was, from the carelessness of his servant, kept without food for a whole day: the animal, on the following morning, gnawed his way through,

* Sparrman's Voyage.

† SYNONYMS.—*Viverra Civetta*. Linn.—Civet Cat. Var.—*Civetta*. Buffon.—*Shaw's Gen. Zool* pl. 95.—*Brew. Quad.* 244.

the cage in which he was kept, came into the room where M. Barbot was writing, and, staring about with his sparkling eyes for a few seconds, made a leap of five or six feet, at a fine American Parrot, that was perched on a piece of wood, put into the wall for the purpose. Before his master could run to the relief of the bird, the Civet had torn off his head, and begun to feast himself on his prey.* Though the Civet is naturally savage, it is capable of being tamed, and rendered tolerably familiar. The voice is stronger than that of a Cat, and somewhat resembles the cry of an enraged Dog.

This animal is remarkable for the production of the drug called civet, sometimes erroneously confounded with musk. This substance is a secretion, formed in a large double glandular receptacle, situated at some little distance beneath the tail, and which the creature empties spontaneously. The Dutch keep great numbers of Civets alive at Amsterdam, for the purpose of collecting the drug from them. When a sufficient time for the secretion has been allowed, the animal is put into a long wooden cage, so narrow, that it cannot turn itself round: the cage being opened by a door behind, a small spoon, or spatula, is introduced through the orifice of the pouch, which is carefully scraped and its contents put into a proper vessel. This operation is performed twice or thrice a week; and the animal is said always to produce the most after being irritated. The quantity depends in a great

* Barbot, v. 114. 211.

measure also on the quality of the nourishment which it takes, and the appetite with which it eats. In confinement, its favourite food is boiled meat, eggs, birds, and small animals, and particularly fish.

The Civet, procured from Amsterdam, is less adulterated, and therefore held in higher estimation than that from India, or the Levant. Its general value in Holland is about fifty shillings an ounce ; but it varies sometimes very considerably. It is best when new, of a whitish colour, a good consistence, and of a strong disagreeable smell. This perfume is so powerful, that if a person be shut up in the same room with the animal, it is almost insupportable. The smell, however, of a small quantity of it is more grateful than musk, to which it bears some resemblance.*

THE MEXICAN WEESEL.†

The Mexican Weesel is about two feet and a half in length, with a long prehensile tail. The general colour is an olive yellow, mixed with a grey brown, and lighter beneath than above. It is found in Mexico and New Spain.

Its manners in confinement are gentle and sprightly. During the day, he generally sleeps, but awakes in the evening, when he begins to climb and search about for food. He uses his tail, with

* Church. Shaw. Bewick.

† SYNONYMS.—*Viverra prehensilis*. Kerr.—Kinkajou. Buffon.—Quincajou or Carajou. *Charles-voix*.—Mexican Weesel. Penn.

great dexterity, in seizing and bringing to him such things as he cannot otherwise reach ; but he has been observed never to extend this, till his feet were perfectly secure. He tears every thing he finds, either for amusement, or in quest of insects. This mischievous propensity alone prevented one of these animals, that was kept by Mr. Chaveu, at Paris, from being suffered to range at liberty. Before this was discovered, he used to be let loose at night, and how far soever he might range in the dark, he was always found the next morning lying in the same place. He distinguished his master, whom he would follow : was caressing, but not very tractable. He ate bread, meat, vegetables, and fruit ; drank milk and water, and even spirits, if sweetened, with which he would so intoxicate himself, as to continue sick for several days. He was passionately fond of odours and sweet-meats. He frequently attacked the poultry, always seizing them under the wing : seemed to drink their blood, but never devoured them. His voice, which was only exerted in the night, was somewhat like the barking of a Dog. When he was sporting about, or when he received any injury, he adopted a cry somewhat like that of a young Pigeon ; and when he meant to threaten, he hissed like a Goose. He always seemed extremely afraid of going into the water.

Another of these animals, that was exhibited in 1773, at the fair of St. Germain, appeared for some time of a very mild disposition, and would lick the hand of any person who held it out. But by frequent irritations of the populace it was afterwards

rendered mischievous, and always attempted to bite at the hand after licking it. This creature would often sit on end, and scratch itself with its fore-paws; was very playful, would fold its paws into each other, and perform many Monkey tricks. It eat from its paws. When irritated it always endeavoured to leap on the person from whom the affront came. It laid hold of any thing it wanted with its tail, and would frequently hang by it: when it was walking, the tail was always carried horizontally.*

The claws are long, by which it is enabled to climb trees with great ease, where it waits for prey, and from whence it sometimes darts upon small animals that are below. These have no other chance of escaping but by immediately rushing into the water, if such is at hand, when the Weesel is obliged to let go his hold in order to save himself. When he seizes on any animal, he folds his tail round it, and gnaws a small hole in its neck, through which he sucks the blood.

Charlevoix says he frequently leaps upon the neck of the Moose-deer, where he first fixes himself securely, then cuts into the jugular vein, and does not move from his station, unless forced by the animal's plunging into the water, till the beast falls down from loss of blood.†

He is hunted by Foxes, who search for him as he lies in wait for his prey, and seldom fail to carry him off.‡

* Buff. Quad. vii. 287—292.
i. 201.

† Buff. Quad.

‡ Charlevoix Travels in America.

THE PINE MARTIN.*

This animal is about eighteen inches long: is of a dark chesnut colour, and has a yellow throat and breast. It frequents the pine forests of all the northern regions, but particularly of America; and it is found even in some parts of England.

Its general retreat is in the hollow of some tree, towards the top, and so situated as to afford the animal perfect security. The nest of the Squirrel is generally preferred: of this, after that little creature has taken pains to complete, the Martin, by the usual claim of superior strength, dispossesses the ingenious architect by killing it. The Martin enlarges its dimensions, lines it with softer materials, and in that secure retreat, brings forth its young.

Its valour and courage are so great that it will attack animals much larger and stronger than itself. The Sheep and the Hare it sometimes seizes, and, if necessity obliges, will combat the fury of even the Wild Cat, which, though much stronger, is always worsted, and often killed.

Notwithstanding this ferocity of disposition, the Martin is easily rendered docile. Gesner says he kept one, which was extremely playful and entertaining; it used to go to the houses of the neighbours, and always returned home when it wanted food: it was particularly fond of a Dog, with which it had been bred up, and would play with it as Cats do, lying on its back, and pretending to

* SYNONYMS.—*Viverra Martes. Shaw.*—*Mustela Martes. Linn.*—*Marder. Ridinger.*—*Marte. Buffon.*—*Lew. Quad. 231.*

bite it. Buffon had one, which though it had lost its ferocity, did not however discover any marks of attachment, and continued so wild as to require being chained. It frequently escaped from its confinement: at first it returned after some hours absence, but without appearing pleased; the time of absence of each succeeding elopement gradually increased, and at last it took a complete departure. During its confinement it sometimes slept for two days without intermission. When preparing for sleep it formed its body into a circle, hid its head, and covered it with its tail.

They have a musky smell, which to many persons is very agreeable. Their cry is sharp and piercing, but never uttered, except when in pain or distress. Their principal food consists of Rats, Mice, and other small quadrupeds; poultry, game, &c. and they are remarkably fond of honey.

The female produces three or four young, which soon arrive at a state of perfection. She is able to afford them but a small quantity of milk, but she compensates for this natural defect, by bringing home eggs and live birds to her offspring, and thus early accustoms them to a life of carnage and plunder. As soon as the young are able to leave the nest, she leads them through the woods, where they begin to seize on their own prey, and to provide food for themselves.

They are hunted in the North for their furs, which are held in great estimation; the most valuable part is that which extends along the back. In England these are used to line the robes of

magistrates, and for several other purposes. They form a considerable article of commerce, above 12,000 being annually imported into this country from Hudson's Bay, and more than 30,000 from Canada.*

THE SABLE.†

The Sable is a native of North America, Siberia, Kamtschatka, and Asiatic Russia. It is about eighteen inches in length, and has a longish and rather sharpened head. Its general colour is a deep glossy brown.

The skin of the Sable is more valuable than that of any other animal: one of these, not above four inches broad, has sometimes been valued as high as fifteen pounds; but the general price is from one pound to ten, according to their goodness. The Sable's fur is different from all others, in the hair turning with equal ease either way. The bellies of Sables, which are sold in pairs, are about two fingers in breadth, and are tied together in bundles of forty pieces, which are sold at from one to two pounds sterling. The tails are sold by the hundred, from four to eight pounds.

The manner in which the Kamtschadales take these animals is extremely simple. They follow the track of the Sable in snow-shoes, till they have detected his covert, which is generally a burrow in the earth. As soon as the little creature is aware

* Church's Cabinet of Quadrupeds.

† SYNONYMS.—*Viverra Zibellina*. *Shaw*.—*Mustela Zibellina*. *Linn.*
—Sable Weasel. *Penn.*—Zibeline. *Buffon*.—*Beuv. Quad.* 233.

of his pursuer, he escapes into some hollow tree, which the hunter surrounds with a net, and then either cuts it entirely down, or forces the animal by fire and smoke to abandon his retreat, when he falls into the net and is killed. They sometimes surround the tree in which a Sable is lodged, with Dogs trained for the purpose, and then, making a running noose on a pretty strong cord, find means to get the creature's head into the snare, and thus hawl him down an easy prey.*

In other parts, where these animals are more rare, the contrivances to take them are more artificial. Of this kind is the Sable-trap of the Vogules, which is used in several parts of Siberia. A place is found where two young trees stand not far asunder, which are immediately stripped of their branches about the bottom. Near one of these a post is stuck into the ground, and on it a beam is placed horizontally, and so fastened to both trees, that one end of it lies between the post and the tree. Over this beam another is laid, as a trap-fall, at the end of which a thin support is put, which, when the trap-fall is up, stands over the notched end of the post: at the extremity of the support is a mat-string, and another at the lower transverse beam, tied very short. Both are brought together, and a bit of stick is put through them, having at its lower extremity a piece of flesh or wild-fowl attached, which, by its preponderance, keeps the stick down, and thus holds

* Lessep, i. 56.

the two strings together. The Sable creeps cautiously along the the lower beam, till he can reach the bait, and pull it to him ; this lets go the stick to which the bait is tied, and by which the strings were held together ; the stay loses its hold, and consequently the upper beam falls upon the shoulders of the animal, and holds him fast.

Sables frequent the banks of rivers, and the thickest parts of the woods. They live in holes under ground, and especially under the roots of trees ; but they sometimes make their nest, which consists of moss, small twigs, and grass, in the hollows of trees. The female brings forth in the spring, and produces from three to five at a time. In winter they live on berries of different kinds, but in the summer-time, before these are ripe, they devour Hares, Weesels, Ermines, and other small animals.*

The Sable is a most lively and active animal, and leaps with great agility from tree to tree, in pursuit of birds or Squirrels. It is said also to feed on wild fruits and berries. M. Gmelin saw two of these animals that had been in some measure domesticated : whenever they saw a Cat, they would, he says, rise on their hind feet, to prepare for a combat. In the night they were extremely restless and active ; but during the day, and particularly after eating, they generally slept so sound for half an hour, or an hour, that they might be pushed, shaken, and even pricked, without being awakened.

* Grieve, 110.

The chase of the Sable, according to Mr. Pennant, was, during the more barbarous periods of the Russian Empire, the principal task of the unhappy exiles who were sent into Siberia, and who, as well as the soldiers sent there, were obliged to furnish, within a given time, a certain quantity of furs; but as Siberia is now become more populous, the Sables have, in a great measure, quitted it, and retired farther to the north and east, into the desert forests and mountains.*

THE COMMON WEESEL.†

The common Weesel is a little active animal, well-known in this country. Its length, exclusive of the tail, is about seven inches, and its height not above two and a half. The colour of its upper parts is a pale reddish brown, and its breast and belly are white, but on each side, below the corners of the mouth is a brown spot. The ears are small and rounded, and the eyes black.

It is very destructive to young birds, poultry, Rabbits, and several other animals; and it sucks eggs with great avidity. In doing this, it begins by making a small hole at one end, from which it licks out the yolk, leaving the shell behind; whereas Rats and some other animals always drag them out of the nest, and either make a large hole in, or break them to pieces. From this circumstance

* Penn. Quad. ii. 323.

† SYNONYMS.—*Viverra Vulgaris*. Shaw.—*Mustela Vulgaris*. Linn.—Weesel. Fitchet. Foulmart, or Foulmart. Ray.—Whitret, or Whitred. Sibald.—Shaw's Gen. Zool. pl. 98.—Bew. Quad. 219.

the attacks of the Weesel may always be distinguished. Its form is elegant, but, with some others of this genus, it has an unpleasant smell. It lives chiefly in cavities under the roots of trees, and in the banks of rivulets; from whence only it sallies out on the approach of evening to commit its devastations.

M. de Buffon supposed the Weesel to be untamable, but Mademoiselle de Laistre, in a letter on this subject, gives a very pleasing account of the education and manners of a Weesel, which she took under her protection.* This she fed with fresh meat and milk, the latter of which it was very fond of. It frequently eat from her hand, and seemed to be more delighted with this manner of feeding than any other. "If I pour (says this lady) some milk into my hand, it will drink a good deal, but, if I have not this complaisance, it will scarcely drink a drop. When it is satisfied it generally goes to sleep: my chamber is the place of its residence, and I have found a method of dispelling its strong smell by perfumes: by day it sleeps in a quilt, into which it gets by an unsown place on the edge which it has discovered. By night it is kept in a wired box or cage, which it always enters with reluctance, and leaves with pleasure. If it be set at liberty before my time of rising, after

* In general, however, when in confinement, they are in perpetual agitation, appear much disturbed by the sight of man, and refuse to eat in the presence of any person; and, usually, if they are not allowed some place where they can hide themselves, they soon die.

a thousand little playful tricks, it gets into my bed, and goes to sleep in my hand, or on my bosom. If I am up first, it spends a full half hour in caressing me, playing with my fingers like a little Dog, jumping on my head, on my neck, running round on my arms and body, with a lightness and elegance which I never beheld in any other animal. If I present my hands at the distance of three feet, it jumps into them, without ever missing. It shews a great deal of finesse and cunning in order to compass its ends, and seems to disobey certain prohibitions merely through frolic. During all its actions it seems solicitous to divert, and to be noticed ; looking at every jump, and at every turn, in order to see whether it is observed or not : and, if no notice be taken of its gambols, it ceases them immediately, and betakes itself to sleep ; and even when most asleep, if awaked, it instantly resumes its gaiety ; and frolics about in as sprightly a manner as before. It never shews any ill humour, unless when confined, or teized too much ; in which case it expresses its displeasure by a sort of murmur, very different from that which it utters when pleased.

“ In the midst of twenty people, this little animal distinguishes my voice, seeks me out, and springs over every body to come at me. His play with me is the most lively and caressing ; with his two little paws he pats me on the chin with an air and manner expressive of delight. This, and a thousand other preferences, shew that his attachment to me is real. When he sees me dressed for going

out, he will not leave me, and it is not without some trouble that I can disengage myself from him; he then hides himself behind a cabinet near the door, and jumps upon me as I pass, with so much celerity that I frequently can scarcely see him.

“He seems to resemble a Squirrel in vivacity, agility, voice, and manner of murmuring. During the summer he squeaks and runs about all night long; but, since the commencement of the cold weather, I have not observed this. Sometimes, when the sun shines, while he is playing on the bed, he turns and tumbles about, and murmurs for a while.

“From his delight in drinking milk out of my hand, into which I pour a very little at a time, and his custom of sipping the little drops and edges of the fluid, it should seem that he drinks dew in the same manner. He very seldom drinks water, and then only with great caution, and in defect of milk; and then he seems only to refresh his tongue once or twice: he even seems to be afraid of water. During the hot weather it rained a good deal. I presented to him some rain water in a dish, and endeavoured to make him go into it, but could not succeed. I then wetted a piece of linen cloth in it, and put it near him, when he rolled upon it with extreme delight.

“One singularity in this charming animal is his curiosity; it being impossible to open a drawer or a box, or even to look at a paper, but the little creature will examine it also. If he gets into any place where I am afraid of permitting him to stay,

I take a paper or a book, and look attentively at it; when he immediately runs upon my hand, and surveys with an air of curiosity whatever I happen to hold. I must farther observe, that he plays with a young Cat and Dog, both of some size, getting about their necks, backs, and paws, without their doing him the least injury."

The method of taming these creatures is, according to M. de Buffon, to stroke them gently over the back; and to threaten, and even to beat them, when they attempt to bite. Aldrovandus tells us, that their teeth should be rubbed with garlick, which will take away all their inclination to bite!

The last author quotes from Strozza the following part of an elegy on the death of a tame Weesel.

*Nil poterat puero te gratius esse, nec illi
Morte tua quicquam tristius esse potest.
Tu digitos molli tentabas improba morsu,
Porrecto ludens semisupina pede,
Et mollem e labiis noras sorbere salivam,
Et quiddam exiguo murmure dulce queri.*

Loving and lov'd thy master's grief!
Thou could'st th' uncounted hours beguile,
And nibbling at his finger soft,
Watch anxious for th' approving smile:
Or stretching forth the playful foot,
Around in wanton gambols rove,
Or gently sip the rosy lip,
And in light murmurs speak thy love.*

The motion of the Weesel consists in unequal leaps; and, when necessitated to it, it has the

* Shaw, i. 422—425.

power of springing some feet from the ground. It is remarkably active ; and will run up a wall with such facility, that no place is secure from it.

It is useful to the farmer in ridding him of Rats and Mice, which it will pursue into their holes and kill ; but its depredations are not altogether confined to these pernicious animals, it also very often destroys young poultry and pigeons. It seizes its prey near the head, and but seldom eats it upon the spot, generally carrying it away to its retreat.

It often destroys the Moles in their habitations, as is proved by being at times caught in the traps laid for these animals. It is said, that when it pursues the Hare, that timid creature is terrified into a state of absolute imbecility, and gives itself up without the least resistance, making, at the same time, the most piteous outcries.

We are told, that an Eagle, having seized a Weesel, mounted into the air with it, and was soon after observed to be in great distress. His little enemy had so far extricated itself as to be able to bite him very severely in the neck, which presently brought the bird to the ground, and gave the Weesel an opportunity of escaping.

The female brings forth in the spring, and generally produces four or five at a litter. She prepares for them a bed of moss, leaves, and straw. Aldrovandus tells us, that when she suspects they will be stolen from her, she carries her young in her mouth from place to place several times a day.

M. de Buffon informs us, that, in his neighbourhood, a Weesel with three young ones was taken

out of the body of a Wolf, that had been hung on a tree by the hind feet. The Wolf was almost entirely putrified, and the Weesel had made a nest of leaves and herbage, in the thorax of this putrid carcase.

Among other curious particulars respecting this animal, it has been observed, that, when asleep, its muscles are in such a state of extreme flaccidity, that it may be taken up by the head, and swung backwards and forwards like a pendulum, several times before it will awake.

The Weesel is found in all the temperate parts of Europe, and also in Barbary : but in the bleak northern climates it is very scarce.

In Siberia there is a white variety, the skins of which are chiefly sent to China, and are sold for three or four hundred rubles a hundred.

THE OTTER TRIBE.

THE Otters differ from the Weesels in living almost constantly in the water, from whence they principally derive their food, which consists of fish. Their bodies are very long, and their legs short. They burrow, and form their dwellings in the banks of rivers and lakes, in the neighbourhood of their prey.

They have, in each jaw, six sharpish cutting-teeth, the lower ones of which do not stand in an

even line with the rest, but two are placed within the others. The canine-teeth are somewhat longer than the rest. They differ from the Weesels principally in having webbed feet.

THE COMMON OTTER.*

The common Otter is about two feet in length from the nose to the insertion of the tail; and the length of the tail is near sixteen inches. It is a native of nearly every part of Europe, and is yet to be met with in some parts of England. Its legs are short, but strong and muscular: the head is broad, oval, and flat on the upper part; and the body long and round: the neck is very thick, and the ears short and rounded. The legs are so placed as to be capable of being brought into a line with the body, and of performing the office of fins. The five toes are connected by webs, and the whole foot is without hair. Their general colour is a deep brown.

They inhabit the banks of rivers, and though they sometimes seize on the smaller quadrupeds and on poultry, their principal food is fish. "The Otter (says Mr. Pennant) shews great sagacity in forming its habitation: it burrows under ground in the bank of some river or lake; and always makes the entrance of its hole under water; working upwards to the surface of the earth, and, before it

* SYNONYMS.—*Lutra Vulgaris*. *Sharw.*—*Mustela Lutra*. *Linn.*—*Greater Otter*. *Penn.*—*Loutie*. *Buffon.*—*Sharw's Gen. Zool. pl. 100.*—*Bew. Quad. 451.*

reaches the top, makes several *holts*, or lodges, that in case of high floods it may have a retreat; for no animal seems desirous of lying drier; and then makes a minute orifice for the admission of air. It is farther observed, that this animal, the more effectually to conceal its retreat, contrives to make this little air-hole in the midst of some thick bush."*

In some parts of North America they are, in winter, seen at a distance from any known open water, both in woods and on open plains; but it is not known what leads them to such situations. If pursued, when among the woods, in winter, where the snow is light and deep, they immediately dive, and make considerable way under it; but they are easily traced by the motion of the snow above them, and soon overtaken. The Indians kill numbers of them with clubs, by tracing them in the snow; but some of the old ones are so fierce, when close pursued, that they turn and fly at their pursuer.

They are very fond of play, and one of their favourite pastimes is, to get on a high ridge of snow, bend their fore-feet backward, and slide down the side of it, sometimes to the distance of twenty yards.†

The Otter, though naturally of a ferocious disposition, may, if taken young, and properly educated, be perfectly domesticated: the training of them, however, requires both much assiduity,

* Penn. Brit. Zool.

† Hearne. 375.

and much perseverance; but their activity and use, when taught, sufficiently repay the trouble of teaching; and few other animals are more beneficial to their masters. The usual way is first to teach them to fetch, as dogs are instructed; but, as they have not the same docility, so it requires more art and experience to instruct them. It is usually performed by accustoming them to take a truss stuffed with wool, of the shape of a fish, and made of leather, in their mouths, and to drop it at the word of command; to run after it when thrown forward, and to bring it to their master. From this they proceed to real fish, which are thrown dead into the water, and which they are taught to fetch from thence. From dead fish they proceed to those that are alive, until at last the animal is perfectly instructed in the whole art of fishing. An Otter, thus taught, is a very valuable animal, and will catch fish enough to sustain not only itself but a whole family. "I have seen (says Dr. Goldsmith, from whom this information is taken) one of these go to a gentleman's pond at the word of command, drive up the fish into a corner, and, seizing upon the largest of the whole, bring it off, in its mouth, to its master."*

A person of the name of Collins, who lived at Kilmerston, near Wooler, in Northumberland, had a tame Otter, which followed him wherever he went. He frequently took it to fish in the river; and, when satiated, it never failed to return to its

* Goldsmith, iv. 145.

master. One day, in the absence of Collins, being taken out to fish by his son, instead of returning as usual, it refused to come at the accustomed call, and was lost. The father tried every means to recover it; and, after several days search, being near the place where his son had lost it, and calling to it by its name, to his inexpressible joy, it came creeping to his feet, and shewed many marks of affection and firm attachment.

Some years ago, James Campbell, near Inverness, had a young Otter, which he brought up and tamed. It would follow him wherever he chose; and, if called on by its name, would immediately obey. When apprehensive of danger from Dogs, it sought the protection of its master, and would endeavour to fly into his arms for greater security. It was frequently employed in catching fish, and would sometimes take eight or ten Salmon in a day. If not prevented, it always made an attempt to break the fish behind the fin next the tail; and, as soon as one was taken away, it immediately dived in pursuit of more. When tired, it would refuse to fish any longer; and was then rewarded with as much as it could devour. When satisfied with eating, it always curled itself round, and fell asleep; in which state it was generally carried home.—The same Otter fished as well in the sea as in fresh water, and took great numbers of young Cod, and other fish there.

Another person, who kept a tame Otter, suffered it to follow him with his Dogs. It was very useful to him in fishing, by going into the water,

and driving Trout and other fish towards the net. It was remarkable, that the Dogs, though accustomed to the sport, were so far from giving it the least molestation, that they would not even hunt any Otter while it remained with them ; on which account the owner was under the necessity of disposing of it.*

The method of fishing with a tame Otter is mentioned in the *Prædium Rusticum* of Vaniere ; and has been thus translated :

“ Should chance within this dark recess betray
The tender young, bear quick the prize away.
Tam'd by thy care, the useful brood shall join
The wat'ry chace, and add their toils to thine;
From each close lurking-hole shall force away,
And drive within thy nets the silver prey :
As the taught Hound the timid Stag subdues,
And o'er the dewy plain the panting Hare pursues.”

M. Poissonnier, considering the account of Vaniere as fabulous, procured a young Otter, which he tamed, in order to put it to the test, and to his great surprise, found that after a little instruction it would run to a small river, about a hundred yards from his house, and very seldom return without a live fish in its mouth. He also brought it to such a state of domestication, that to whatever distance it went, it always returned, with the utmost punctuality, to its kennel.

This writer contradicts an assertion frequently made, that the Otter is amphibious ; for his Otter

* Bew. Quad. 452, 453.

never plunged into the water but in search of prey, and it then always returned as speedily as possible to the bank, where it shook itself like a Water-spaniel. When it was obliged to continue in the water for any length of time, it frequently raised its head in order to breathe, and he believes it would have been killed had it been forced to remain under water for so long a space as half an hour.*

When the Otter, in its wild state, has caught a fish, it immediately drags it ashore, and devours the head and upper parts, leaving the remainder; and when in a state of captivity, it will eat no fish but what is perfectly fresh; but will prefer bread, milk, &c. They generally hunt against the stream; and when more than one is fishing at the same time, they are frequently heard to utter a sort of loud whistle to each other, probably by way of signal. When two of them, as sometimes happens, are hunting a Salmon, one stations itself above, and the other below the place where the fish is, and they continue to chace it, till the Salmon, becoming perfectly wearied out, surrenders itself a quiet prey.† The Otter, when it hunts singly, has two modes of taking its prey; the first is by pursuing it from the bottom upwards; this is principally done with the larger fish, whose eyes being placed so as not to see under them, the animal attacks them by surprise from below, and, seizing them by the belly, drags them away. The other

* Le Moniteur Universel, Nivose 21, An. vii.

† Pen. Brit. Zool,

mode is by hunting them into some corner of the pond or lake, and there seizing them. The latter, however, can only be practised in water where there is no current, and on the smaller fish, for it would be impossible to force the large ones out of the deep water.* The Otter is as noxious in a fish-pond, as the Polecat in a hen-roost; he frequently kills more fish than he can eat, and then carries off but one in his teeth.

The female produces four or five young at a birth, and these in the spring of the year. Where there have been ponds near a gentleman's house, instances have occurred of their littering in cellars, or drains. The male utters no noise when taken, but the pregnant females emit a most shrill squeak.†

Otters are generally taken in traps placed near their landing places, where they are carefully concealed in the sand. When hunted with Dogs, the old ones defend themselves with great obstinacy: they bite severely, and do not readily quit their hold where they have once fastened. An old Otter will never yield while it has life; nor make the least complaint, though wounded ever so much by the Dogs, nor even when transfixed with a spear.

The Kamtschadales use their fur for garments; and the North American Indians manufacture their skins into pouches, which they ornament with bits of horn.

* Church.

† Brit. Zool. i. 95.

In the northern parts of America they change their colour in winter to white, like most of the other Arctic animals, and it is not till very late in the spring that they resume their brown summer dress.

The flesh is exceedingly rank and fishy, so much so that the Romish Church permitted the use of it on maigre-days. In the kitchen of the Carthusian convent near Dijon, Mr. Pennant saw one of them cooking for the dinner of the religious of that rigid order, who, by their rules are prohibited, during their whole lives, the eating of fish.*

THE SEA OTTER.†

The Sea Otter is found on the coast of Kamtschatka, and the adjacent islands, as well as on the opposite coasts of America; but it is confined to a very few degrees of latitude. Its length, to the tail, is about three feet, and that of the tail is thirteen inches. The colour is a deep glossy black, and the fur extremely soft and fine. The ears are small and erect, and the whiskers long and white. The legs are short and thick, and the toes connected by a web: the hind feet resemble those of a Seal. The weight of the largest Sea Otters is from seventy to eighty pounds.

In their manners they are very harmless; and most singularly affectionate to their young. They will never desert them, and will even starve

* Penn. Brit. Zool. i. 94.

† SYNONYMS.—*Lutra Marina*. Shaw.—*Mustela Lutris*. Linn.—Sea Otter. Penn.—*Shaw's Gen. Zool. pl. 101.*—*Berw. Quad. 455.*

themselves to death on being robbed of them ; and strive to breathe their last on the spot where they experienced their misfortune. They are supposed to bring forth but one at a time, which they suckle almost a whole year, and till it takes to itself a mate. They pair, and are very constant.

They often carry their young between their teeth, fondle them, and frequently fling them up and catch them again in their paws. Before the young can swim, the old ones will take them in their fore feet, and swim about with them upon their backs.*

They swim sometimes on their sides, at other times on their backs, and again in an upright position. They are very sportive, embrace each other, and seem to kiss.†

They make no resistance, but, when attacked, endeavour to save themselves by flight: when, however, they are closely pressed, and can see no means of escape, they scold and grin like an angry Cat; if they receive a blow, they immediately lie on their side, draw up their hind legs together, cover their eyes with their fore paws, and thus make ready to die. But if they are fortunate enough to escape their pursuers, they deride them as soon as they are safe in the sea, with all manner of diverting tricks: one while keeping themselves on end in the water, and jumping over the waves, at the same time holding their fore paw over the

* Grieve, 131.

† Penn. Arct. Zool. i. 89.

eyes, as if to shade them from the sun, while narrowly looking out for their enemy; then lying flat on their back, and stroking their belly; then throwing their young down into the water and fetching them up again. On their flight they carry the sucklings in their mouths, and drive the full-grown before them.*

The skins of the Sea Otters are of great value, and have long formed a considerable article of export from Russia. They are disposed of to the Chinese at the rate of eighty or a hundred rubles each.† The trade for this fur at Nootka, had, not many years ago, nearly produced a war between Great Britain and Spain. They are sometimes taken with nets, but are more frequently destroyed with clubs and spears. The young animals are said to be delicate eating, and not easily to be distinguished from lamb. The flesh of the old ones is insipid, hard, and tough.

THE BEAR TRIBE.

THE Bears have six front teeth, both above and below: the two lateral ones of the lower jaw are longer than the rest, and lobed with smaller or secondary teeth at their internal bases. The grinders are five or six on each side, and the canine teeth are solitary. The tongue is smooth,

* Tooke,

† Marchand, i. 207.

the snout prominent, and the eyes are furnished with a nictitating or winking membrane.*

The soles of their feet are long, and extend to the heel, giving them a very firm tread. Some of the species use their fore paws as hands. From the length and sharpness of their claws, they are all able to climb trees in search of prey, or to escape from their enemies.

THE COMMON BEAR.†

The Common Bears are inhabitants of the forests in the northern regions of Europe, and are also found on some of the Indian Islands. They vary much in colour, some of them being brown, others black, and others again grey. The Brown Bears live chiefly on vegetables, and the black ones in a great measure on animal food, on Lambs, Kids, and even Cattle, which they destroy, sucking the blood, in the manner of the Weesel tribe. They generally blow up the carcasses of such animals as they kill, and hide the remainder of what they cannot devour in the marshes.

They are said to be particularly fond of honey : in search of this it is that they climb trees, in order to get at the nests of the wild Bees ; for the Bear, notwithstanding his awkward form, is expert in climbing, and sometimes takes up his residence in the hollow of a large tree. The Bear will also

* Linn. Gmel. i. 100.

† SYNONYMS.—*Ursus Arctos*. Linn.—Ours. Buffon.—Common, or Brown Bear. Penn.—Shaw's Gen. Zool. pl. 102.—Berr. Quad. 261.

catch and devour fish, occasionally frequenting the banks of rivers for that purpose.

He is a savage and solitary animal, living in the most retired and unfrequented parts of the forest. Great part of the winter is spent in his den, in a state of repose and abstinence. During this period it is that the females bring forth and suckle their young. These are generally two in number; they are at first round and almost shapeless, with pointed muzzles; but are not, as the ancient naturalists supposed, licked into regular form by the female. They are about eight inches long when produced, and are said to be blind for nearly a month.—The Bears go into their winter retreats extremely fat, but as they eat nothing during that season, they come out excessively lean in the spring: and from nothing but a frothy slime having been found in the stomachs of those that have been killed on their coming out, a general opinion has been maintained that they support themselves throughout the whole winter by sucking their paws.*

Thomson has, with great truth and beauty, described, the retreat of these animals in the frozen climate of the North:

There through the piny forest half absorpt,
Rough tenant of those shades, the shapeless Bear,
With dangling ice all horrid, stalks forlorn:
Slow pac'd, and sourer as the storms increase,
He makes his bed beneath th' inclement drift,
And, with stern patience, scorning weak complaint,
Hardens his heart against assailing want.

* Grieve, 103.

The Black Bears, we are told, are remarkably attached to each other ; the hunters never dare to fire at a young Bear, if the dam is on the spot ; for, if the cub should happen to be killed, she becomes so enraged, that, if she can only obtain a sight of the offender, she is sure either to avenge herself, or die in the attempt. If, on the contrary, the mother should be shot, the cubs will continue by her side long after she is dead, exhibiting the most poignant affliction. A man nearly lost his life, a few years ago, in Hungary, by firing at a young Bear, in the presence of its dam, who had indeed been concealed from his sight by some bushes ; for, at one blow with her paw, she brought off a great part of his scalp.* This animal seldom uses his teeth as weapons of defence, but generally strikes his adversary very strongly with his fore-paws, like a Cat : and if it is possible, he seizes him between his paws, and presses him to his breast, with such force as almost instantly to suffocate him.

The Bear is, in many respects, so useful an animal to mankind, in the bleak and dreary countries of the North, and the modes of taking him are so various and ingenious, though, at the same time, in general, excessively cruel, that our labour will not be ill-bestowed in enlarging a little upon them.

The most usual way of killing the Bears, is with fire-arms or arrows. The Laplanders knock them down with clubs, as they can easily overtake them

* Townson's Travels, 371.

in running with their snow shoes ; but they are generally first shot, and then dispatched with spears.

In some parts of Siberia, the hunters erect a scaffold of several balks, laid on each other, which fall altogether, and crush the Bear, upon his stepping on the trap placed under it.

Another method is, to dig pits, in which a smooth, solid, and very sharp-pointed post is fixed into the ground, rising about a foot above the bottom. The pit is carefully covered over with sods ; and across the track of the Bear, a small rope, with an elastic bug-bear, is placed. As soon as the Bear touches the rope, the wooden bug-bear starts loose, and the affrighted animal, endeavouring to save himself by flight, falls with a violent force into the pit, and is killed by the pointed post. If he escapes this snare, at a little distance, several Caltrops,* and other instruments of annoyance frequently await him ; among which, a similar terrific log is erected, and where the persecuted beast, the more he strives to get free, fixes himself faster to the spot, where the blood-thirsty hunter lies in ambush for him.

Yet not only beneath and upon the earth, but even in the air, has man's inventive genius contrived to lay snares for his liberty and his life. The Koriacks, for this purpose, find some crooked tree, grown into the form of a gibbet, at the bowed end

* Irons, with four spikes, so formed that, whichever way they fall, one point always lies upwards. These are generally used for throwing into breaches, or on bridges, in time of war, to annoy an enemy's horse.

of which they attach a noose, hanging with it a bait. The hungry Bear is so tempted by this object, that he eagerly climbs into the tree, where he becomes infallibly the victim of his greediness : for, on his moving the branch, the noose draws together, and he remains suspended to the tree, which violently springs back into its former position.

But still more singular and ingenious is the method adopted by the inhabitants of the mountainous parts of Siberia, to make this ferocious animal become his own destroyer. They fasten a very heavy block to a rope, that terminates, at the other end, with a loop. This is laid near a steep precipice, in the path on which the Bear is accustomed to go. On getting his neck into the noose, and finding that he cannot proceed for the clog, he takes it up in a rage, and, to free himself from it, throws it down the precipice, it naturally pulls the animal after it, and he is consequently killed by the fall. Should this, however, from accident, not prove the case, he drags the block again up the mountain, and reiterates his efforts, till, with increasing fury, he either sinks nerveless to the ground, or ends his life by a decisive plunge.

The Bear's well-known partiality for honey, is the cause of one of the Russian modes of taking him. They hang to those trees where the Bees are hived, a heavy log of wood, at the end of a long string. When the unwieldy creature climbs up to get at the hive, he finds himself interrupted by the log ; he shoves it away, and immediately attempts to pass it : but, in returning, it hits him

such a blow, that he, in a rage, flings it from him with greater force, which makes it return with still greater upon himself: and he sometimes continues this work, till he is either killed, or falls from the tree.

In some parts of the North, a single man will venture to attack a Bear in the open plains, and without any other instruments than a stiletto, pointed at both ends, and fastened to a thong, and a sharp knife. The thong he wraps about his right arm, up to the elbow, and, taking his stiletto in this hand, and his knife in the left, he advances towards the animal, who, on his hind legs, waits the attack. The hunter, the moment he opens his mouth, with great resolution and address, thrusts his hand into his throat, and placing the stiletto there, not only prevents him from shutting his mouth, but also gives him such exquisite pain, that the Bear can make no farther resistance, and suffers the hunter, either to stab him with his knife, or to lead him about wherever he pleases.*

These animals are so numerous in Kamtschatka, that they are often seen roaming about the plains in great troops; and they would infallibly have long since exterminated all the inhabitants, were they not here much more tame and gentle than the generality of Bears in other parts of the world. In spring, they descend in multitudes from the mountains, where they have passed the winter, to the

* Grieve.

mouths of the rivers for catching fish, which swarm in all the streams of that peninsula. If there be plenty of this food, they eat nothing but the heads of the fish ; and when, at any time, they find the fishermen's nets, they dexterously drag them out of the water, and empty them of their contents.

When a Kamtschadale espies a Bear, he endeavours to conciliate his friendship at a distance, accompanying his gestures, by courteous words. They are, indeed, so familiar, that the women and girls, when they are gathering roots and herbs, or turf for fuel, in the midst of a whole drove of Bears, are never disturbed by them in their employment ; and if any one of these animals comes up to them, it is only to eat something out of their hands. They have never been known to attack a man, except when roused on a sudden from their sleep ; and they very seldom turn upon the marksman, whether they be hit or not.

This humane character of the Kamtschadale Bear, who differs so remarkably from his brethren, in most other countries, procures him, however, no exemption from the persecutions of mankind. His great utility is a sufficient instigation to self-interested man, to declare eternal war against him. Armed with a spear, or club, the Kamtschadale goes in quest of the peaceful animal, in his calm retreat, who, meditating no attack, and intent only on defence, gravely takes the faggots, which his more brutal persecutor brings him, and with them, himself, chokes up the entrance to his den. The mouth

of the cavern being thus closed, the hunter bores a hole through the top, and spears, with the greatest security, his defenceless foe.*

They are sometimes cruel enough to lay a board driven full of iron hooks, in the Bear's track, and place near it something heavy, that the animal must throw down as he passes. Alarmed by this, he runs upon the board with greater force than he would otherwise do; and, finding one of his paws wounded, and fixed by the hooks, he endeavours to free himself, by striking it forcibly with the other. Both the paws of the poor animal being now fixed, bellowing with pain, he rises on his hind feet, which immediately brings the board before his eyes, and so perplexes him, that he throws himself down in fury, and his violent struggles at length destroy him.

It would be difficult to name a species of animals, if we except the Sheep, so variously serviceable to man, as the Bear, after his death, is to the Kamtschadales. Of the skin, they make beds, covertures, caps, and gloves, and collars for their sledge-dogs. Those who go upon the ice for the capture of marine animals, make their shoe-soals of the same, which never slip upon the ice. The fat of the Bear is held in great estimation by all the

* A method nearly similar is practised by some of the North American Indians, with the Bears of that country. They block up the dens with logs of wood, and then break in at the top, and either kill the animal with a spear or gun; or else put a snare about his neck, and, drawing his head close to the hole, dispatch him with their hatchets.
—Hearne, 370.

inhabitants of Kamtschatka, as a very savory and wholesome nourishment ; and, when rendered fluid, by melting, it supplies the place of oil. The flesh is esteemed a great delicacy. The intestines, when cleansed, and properly scraped, are worn by the *fair sex*, as masks to preserve their faces from the effects of the sun-beams ; which here, being reflected from the snow, are generally found to blacken the skin ; but, by this means, the Kamtschadale ladies preserve a fine complexion. The Russians of Kamtschatka make window-panes of these intestines, which are as clear and transparent as those made of Muscovy-glass. Of the shoulder-blades, are made sickles for cutting grass, and the heads and haunches are hung up by these people, as ornaments or trophies, on the trees about their dwellings.*

The Kamtschadales also acknowledge infinite obligations to the Bears, for the little progress they have hitherto made, as well in the sciences, as even in the *polite arts*. They confess themselves indebted to these animals for all their knowledge in physic and surgery : by observing what herbs they have applied to the wounds they have received, and what methods they have pursued, when they were languid, and out of order, this people have acquired a knowledge of most of those simples, which they now have recourse to, either as external or internal applications. But the most singular circumstance of all is, that they admit the Bears

* Tooke's View of the Russian Empire.

to be their *dancing-masters* ; and, in what they call the *Bear-dance*, every gesture and attitude of that animal is so faithfully exhibited, as to afford sufficient indications of this. They represent its sluggish and stupid gait ; its different feelings and situations, as the young ones about their dam, the amorous sports of the male with the female, and its agitation, when pursued. The tune to one of these dances, we shall insert ;—this is always sung by the dancers, and to a jumble of words, that are frequently devoid of any meaning.



All their other dances are similar to the Bear-dance, in many particulars, and those attitudes are always thought to come nearest to perfection, which most resemble the motions of the Bear.*

If the uses of the Bear be so various to the Kamtschadales, not less general is the wear of his fine and warm fur to persons of the higher classes in Russia. A light black Bear-skin, is one of the most comfortable and costly articles in the winter wardrobe of a man of fashion, at Petersburg or Moscow.

Dr. Townson has remarked, in the Hungarian Bear, pretty nearly the same characteristics that we have just noticed in that of Kamtschatka. He

* Lessop i. 104. Cocke's last Voyage. iv. 100.

says, that, however savage these animals may be accounted, they seem to be considerably less so than that species of animal, called man; for the Hungarian children go into the woods, and collect the cranberries, &c. which is a depredation on the property of the Bears, who feed on them, without a single occurrence of injury: nor has any person in that country been known to be hurt by them, without having first commenced the attack.

He was informed, by the peasantry of this country, (what, he says, he had often before heard) that when the Bears leave the woods, and come into the corn-fields at night to feed, they draw the standing corn through their fore paws, then rub the detached ears between them, blow away the chaff, and eat the grain.*

Mr. Pennant tells us, that the Bears are very fond of pease; of which they will tear up great quantities, and, beating them out of the shells on some stone or hard spot of ground, eat the grain, and carry off the straw to their dens.

It is well known, that the Bear may, with some little difficulty, be rendered tame and docile; and it has then the appearance of being mild and obedient to its master; but it is not to be trusted, without the utmost caution. It may be taught to walk upright, to dance, to lay hold of a pole with its paws, and perform various tricks to entertain the multitude, who are highly pleased with the awkward measures of this rugged animal, which it seems to

* TOWNSON, 391.

suit to the sound of an instrument, or to the voice of its leader. But, to give the Bear this kind of education, it is necessary to have it taken young, and to accustom it early to restraint and discipline. An old Bear will suffer no restraint without discovering the most furious resentment; neither the voice nor the menaces of his keeper have any effect upon him; he equally growls at the hand that is held out to feed, and at that which is raised to correct him.

The excessive cruelties practised on this poor animal in teaching it to walk erect, and to regulate its motions to the sound of the pipe, are such as make sensibility shudder. Its eyes are frequently put out; and an iron ring being passed through the cartilage of the nose, to lead it by, it is kept from food, and beaten till it yields obedience to the will of its savage tutors. Some of them are taught to perform, by setting their feet upon heated iron plates, and then playing to them, whilst in this uneasy situation. It is truly shocking to every feeling mind, to reflect that such cruelties should be exercised upon any part of the brute creation by our fellow-men. That they should be rewarded by numbers of unthinking people, who crowd around to see the animal's rude attempts to imitate human actions, is not to be wondered at: but it is much to be wished that the timely interference of the magistrate would prevent every exhibition of the kind; that in England, at least, we might not be reproached with tolerating practices so disgraceful to

humanity.* Thanks to the improving taste of the times, the inhuman custom of *Bear-baiting* is nearly destroyed in our country. This was formerly one of the most favourite diversions in England, and esteemed deserving of the attention of people of fashion : even the British sovereign has sometimes given a sanction to the Bear-garden, by his personal attendance. In Queen Elizabeth's days this was thought an entertainment suitable for a treat to a foreign ambassador : and when she visited Kenelworth castle, it was one of the various amusements prepared for her Majesty. Many of the nobility kept also their bear-ward, and animals for this brutal diversion, with which their Christmas gambols were principally enlivened.†

THE AMERICAN BEAR.‡

The American Bear differs from the European species principally in having a more lengthened head, pointed nose, and longer ears : the hair is also more smooth and glossy, blacker and softer ; and the whole body is, in general, much smaller. The cheeks and throat are of a yellowish-brown colour. It is found in all the northern parts of America, migrating occasionally from the northern to the more southerly parts in quest of food, which is said to be entirely vegetable, or sometimes, when pressed by excessive hunger, fish, and particularly herrings.

* Bew. Quæd. 263.

† Penn. Brit. Zool. i. 79.

‡ SYNONYMS.—*Ursus Americanus*. *Lin.*—Black Bear, *Penn.*

They arrive in Louisiana, driven there by the snows of the more northern climates, towards the end of autumn. At this time they are always very lean, as they do not leave the north till the earth is covered with snow, and their subsistence of course becomes very scanty.

In the country near the Mississippi they seldom venture to any great distance from the banks of that river, but on each side have in winter such beaten paths, that those unacquainted with them would take them for the tracks of men. Du Pratz says he was once, though at a distance of near two hundred miles from any human dwelling, for a while deceived by one of them, which appeared as though thousands of men had been walking along it bare-footed. Upon inspection, however, he found that the prints of the feet were shorter than those of a man, and that at the end of each toe there was the impression of a claw. "It is proper (he says) to observe that in those paths the Bear does not pique himself upon politeness, and will yield the way to nobody; therefore, it is prudent for a traveller not to fall out with him for such a trifling affair."*

About the end of December, from the abundance of fruits they find in Louisiana, and the neighbouring countries, they become so fat and lazy, that they can scarcely run. At this time, when the animals are also in a condition to furnish a large quantity of oil, they are hunted by the Ame-

* Du Pratz, 261.

rican Indians. The nature of the chase is, in general, briefly this : The Bear chiefly adopts for his retreat the hollow trunk of an old cypress, which he climbs, and then descends into the cavity from above. The hunter, whose business it is to watch him into his retreat, climbs, by means of hooks, a neighbouring tree, where he seats himself opposite to the hole. In one hand he holds his gun, and in the other a torch, which he darts into the cavity. Frantic with rage and terror, the Bear makes a spring from his den, but the hunter seizes the instant of his appearance, and shoots him through the head or shoulder.*

Some of the Indian tribes adopt such singular ceremonies in their chase of the Bear, that we shall transcribe the curious account of them, inserted, in Charlevoix Travels in North America, and Mr. Pennant's Arctic Zoology.

"The chase of these animals is a matter of the first importance, and never undertaken without abundance of ceremony. A principal warrior first gives a general invitation to all the hunters. This is followed by a most serious fast of eight days, a total abstinence from all kinds of food ; notwithstanding which, they pass the day in continual song. This they do to invoke the spirits of the woods to direct them to the places where there are abundance of Bears. They even cut the flesh in divers parts of their bodies, to render the spirits more propitious. They also address themselves

* Pagés, i. 49.

to the manes of the beasts slain in the preceding chases, as if these were to direct them in their dreams to plenty of game. One dreamer alone cannot determine the place of the chase, numbers must concur; but as they tell each other their dreams, they never fail to agree. This may arise from complaisance, or from a real agreement in their dreams, on account of their thoughts being perpetually turned on the same thing.

“ The chief of the hunt now gives a great feast, at which no one dares to appear without first bathing. At this entertainment they eat with great moderation, contrary to their usual custom. The master of the feast alone touches nothing; but is employed in relating to the guests ancient tales of the wonderful feats in former chases; and fresh invocations to the manes of the deceased Bears conclude the whole.

“ They then sally forth amidst the acclamations of the village, equipped as if for war, and painted black. Every able hunter is on a level with a great warrior; but he must have killed his dozen great beasts before his character is established; after which his alliance is as much courted as that of the most valiant captain.

“ They now proceed on their way in a direct line; neither rivers, marshes, nor any other impediments, stop their course; driving before them all the beasts which they find in their way. When they arrive at the hunting-ground, they surround as large a space as their company will admit, and then contract their circle, searching as they contract, every hollow tree, and every place fit for the

retreat of a Bear, and continue the same practice till the time of the chase is expired.

“ As soon as a Bear is killed, a hunter puts into his mouth a lighted pipe of tobacco, and blowing into it fills the throat with the smoke, conjuring the spirit of the animal not to resent what they are going to do to its body, nor to render their future chases unsuccessful. As the beast makes no reply, they cut out the string of the tongue, and throw it into the fire : if it crackles and runs in (which it is almost sure to do), they accept it as a good omen ; if not, they consider that the spirit of the beast is not appeased, and that the chase of the next year will be unfortunate.

“ The hunters live well during the chase, on provisions which they bring with them. They return home with great pride and self-sufficiency ; for, to kill a Bear forms the character of a complete man. They give a great entertainment, and now make a point to leave nothing. The feast is dedicated to a certain genius, perhaps that of gluttony ; whose resentment they dread, if they do not eat every morsel, and even sup up the very melted grease in which the meat was dressed. They sometimes eat till they burst, or bring on themselves some violent disorders. The first course is the greatest Bear they have killed, without even taking out the entrails, or taking off the skin ; contenting themselves with singeing the skin, as is practised with Hogs.” *

* Penn. Arct. Zool. i. 62, 63 ; and Charlevoix Travels in North America, i. 180—187.

It is common with the Southern Indians of America to tame and domesticate the young cubs of the Bear; and they are frequently taken so young that they cannot eat. On those occasions the Indians often oblige their wives to suckle them; and one of the Company's servants at Hudson's Bay, whose name was Isaac Batt, willing to be as great a brute as his Indian companions, absolutely forced one of his wives, who had recently lost her infant, to suckle a young Bear.*

Lawson, Catesby, and Brickell,† all relate a very surprizing circumstance respecting this animal: they say that neither European nor Indian ever killed a Bear with young. In one winter upwards of five hundred were killed in Virginia, and among them were only two females, and these not pregnant. The cause is, that the male has the same unnatural dislike to his offspring that some other animals have; and, therefore, the females, before the time of their parturition, retire into the depth of the woods and rocks to elude the search of their savage mates.‡

The flesh of the American Bears is said to eat like pork. Dr. Brickell eat part of a loin of it at a planter's house in North Carolina, and mistook it for excellent pork; but such are the prejudices to which mankind are subject, that the next day, being undeceived, and invited to eat of another, as Bear, he felt so much disgust, that he was not able to taste it.§

* Hearne, 371.
Arct. Zool. i. 60,

† Nat. Hist. of North Carolina, 112.
§ Brickell, 111.

‡ Penn.

THE POLAR BEAR.*

The Polar Bear inhabits only the coldest parts of the globe, being confined within eighty degrees of north latitude, as far as any navigators have hitherto penetrated. It is sometimes found of the length of twelve feet. It differs from the common Bear, in having its head and neck of a more lengthened form, and the body longer in proportion to its bulk. The ears and eyes are small; and the teeth extremely large. The hair is long, coarse, and white; and its limbs of great strength. The tips of the nose and claws are perfectly black.

The immense numbers of these animals in the polar regions, are truly astonishing. They are not only seen at land, but often on ice-floats, several leagues at sea. They are often transported in this manner to the very shores of Iceland, where they no sooner land, but all the natives are in arms to receive them. It often happens, that when a Greenlander and his wife are paddling out at sea, by coming too near an ice-float, a white Bear, unexpectedly jumps into their boat, and, if he does not upset it, sits calmly where he first came down, and, like a passenger, suffers himself to be rowed along. It is probable that the poor little Greenlander is never very fond of his new guest, however, he makes a virtue of necessity, and hospitably rows him to shore.

* SYNONYMS.—*Ursus Maritimus*. *Linn.*—White Bear. *Var.*—White Sea Bear. *Martens.*—Ours Blanc. *Buffon.*—Polar Bear. *Penn.*—*Sbarw's Gen. Zool. pl.* 103.—*Bew. Quad.* 268.

The Polar Bear is an animal of tremendous fierceness. Barentz, in his voyage in search of a North East Passage to China, had the most horrid proofs of their ferocity in the island of Nova Zembla, where they attacked his seamen, seizing them in their mouths, carrying them off with the utmost ease, and devouring them even in the sight of their comrades.*

Not many years ago, the crew of a boat belonging to a ship in the Whale-fishery, shot at a Bear at a little distance, and wounded it. The animal immediately set up the most dreadful howl, and ran along the ice towards the boat. Before he reached it a second shot was fired, and hit him. This served but to increase his fury. He presently swam to the boat, and in attempting to get on board, reached one of his fore feet upon the gunnel; but one of the crew, having a hatchet in his hand, cut it off. The animal still, however, continued to swim after them, till they arrived at the ship; and several shots were fired at him, which also took effect: but on reaching the ship, he immediately ascended the deck; and the crew having fled into the shrouds, he was pursuing them thither, when a shot from one of them laid him dead upon the deck.†

Their usual food consists of Seals, fish, and the carcasses of Whales; but, when on land, they prey on Deer, and other animals, as Hares, young birds, &c. They likewise eat various kinds of berries,

* Heemskirk's Voyage, 14.

† Bew. Quad. 269.

which they happen to find. They go on the flakes of ice in search of Seals ; and also attack the Arctic Walrus, but this creature makes a noble defence with its long tusks, and sometimes comes off victorious. They are said to be frequently seen in Greenland in great droves, allured by the smell of the flesh of Seals, and they will sometimes surround the habitations of the natives and attempt to break in ;* and it is added, that the most successful method of repelling them is by the smoke of burnt feathers.†

The following story of the sagacity of these animals in searching for prey, is inserted from the works of Mr. Boyle : “ An old Sea-captain told me that the White Bears in or about Greenland, notwithstanding the coldness of the climate, have an excellent nose ; and that sometimes when the fishermen had dismissed the carcase of a Whale, and left it floating on the waves, three or four leagues from the shore, whence it could not be seen, these animals would stand as near the water as they could, and raising themselves on their hind legs, loudly snuff in the air, and with the two paws of their fore legs, as with fans, drive it as it were against their snouts ; and when they were (as my relater supposed) satisfied whence the odour came, they would cast themselves into the sea, and swim directly towards the Whale, as my relater and others observed, who had sometimes the curiosity to row at a distance after them, to see whether their noses

* Crantz, i. 73.

† Penn. Arct. Zool. i. 55.

would serve them for guides, when their eyes could not.”*

During the summer they reside chiefly on the ice-islands; and frequently swim from one to another, though six or seven leagues asunder.† They lodge in dens formed in the vast masses of ice, where they breed, producing one or two young at a time. About the end of March they bring these out, and immediately bend their course towards the sea. At this time their young are not larger than a White Fox, and their steps on the snow not bigger than a crown-piece, while those of the dam will measure near fifteen inches in length, and nine in breadth.

When the masses of ice are detached by strong winds or currents, the Bears allow themselves to be carried along with them; and as they cannot regain the land, nor abandon the ice on which they are embarked, they often perish in the open sea.

The affection between the parent and the young is so great, that they will sooner die than desert each other in distress. We shall relate one instance that the reader may probably recollect. “While the *Carcase* frigate, which went out some years ago to make discoveries towards the North Pole, was

* Phil. Works of the Hon. Mr. Boyle.

† Bew. Quad. 269.—There seems considerable difference in opinion on this subject. Buffon says that they never swim more than a league at a time; that in Norway they are followed in small boats, and are soon fatigued: that also they sometimes dive, but this only for a few seconds; and lest they should be drowned, they suffer themselves to be killed on the surface of the water.—*Buff. Quad.* viii. 221.

locked in the ice, early one morning the man at the mast-head gave notice that three Bears were making their way very fast over the Frozen Ocean, and were directing their course towards the ship. They had, no doubt, been invited by the scent of some blubber of a Sea-horse that the crew had killed a few days before, which had been set on fire, and was burning on the ice at the time of their approach. They proved to be a she Bear and her two cubs; but the cubs were nearly as large as the dam. They ran eagerly to the fire, and drew out of the flames part of the flesh of the Sea-horse that remained unconsumed, and eat it voraciously. The crew from the ship threw great lumps of the flesh of the Sea-horse, which they had still left upon the ice, which the old Bear fetched away singly, laid every lump before her cubs as she brought it, and dividing it, gave to each a share, reserving but a small portion to herself. As she was fetching away the last piece, they levelled their muskets at the cubs, and shot them both dead, and, in her retreat, they wounded the dam, but not mortally. It would have drawn tears of pity from any but unfeeling minds, to have marked the affectionate concern expressed by this poor beast in the dying moments of her expiring young. Though she was herself dreadfully wounded, and could but just crawl to the place where they lay, she carried the lump of flesh she had fetched away, as she had done others before; tore it in pieces, and laid it before them; and when she saw that they refused to eat, she laid her paws first upon one, and then upon the other, and endea-

voured to raise them up: all this while it was pitiful to hear her moan. When she found she could not stir them, she went off, and when she had got at some distance, looked back, and moaned; and that not availing her to entice them away, she returned, and, smelling round them, began to lick their wounds. She went off a second time as before; and, having crawled a few paces, looked again behind her, and for some time stood moaning. But still her cubs not rising to follow her, she returned to them again, and with signs of inexpressible fondness, went round one, and round the other, pawing them, and moaning. Finding at last, that they were cold and lifeless, she raised her head towards the ship, and uttered a growl of despair, which the murderers returned with a volley of musket-balls. She fell between her cubs, and died licking their wounds.

The males, says Mr. Hearne, are, at a certain time of the year, so much attached to their mates, that he has often seen one of them, when a female was killed, come and put his two fore paws over her, and in this position suffer himself to be shot before he would quit her.*

During the winter they retire and bed themselves deep beneath the snow, or beneath the fixed ice of some eminence, where they pass in a state of torpidity the long and dismal Arctic night, appearing only with the return of the sun.

White Bears are sometimes found in Iceland, but

* Hearne, 386.

not being natives of the island, they are supposed to float from the opposite coast of Greenland, on some of the huge masses of ice that are detached from those shores. After so long an abstinence as they must necessarily have undergone in the voyage, they are reduced by hunger to attack even man, if he should come in their way. But Mr. Horrebow informs us that the natives are always able to escape their fury, if they can only throw in their way something to amuse them. "A glove (he says), is very proper for this purpose; for the Bear will not stir till he has turned every finger of it inside out: and as these animals are not very dexterous with their paws, this takes up some time, and in the mean while the person makes off."*

They grow exceedingly fat, a hundred pounds weight of this having been sometimes taken from a single beast. The flesh is said to be coarse, and the liver very unwholesome. The skin is valued for coverings of various kinds; and the split tendons are said to form an excellent thread.†

THE GLUTTON.‡

The Glutton is a native of all the countries bordering on the Northern Ocean: it is likewise found in Canada, and about Hudson's Bay. Its length is about three feet to the tail, and that of the

* Horrebow's Iceland. † Penn. Arct. Zool. i. 55.

‡ SYNONYMS.—*Ursus Gulo*. Linn.—*Gulo*. Var.—*Vielfress*, Jarf. Joerven. Genberg.—*Glouton*. Buffon.—*Glutton*. Penn.—*Shaw's Gen. Zool.* pl. 104.

tail one foot. The top of the head, and the whole of the back, as well as the muzzle and feet, are of a blackish brown. The sides are dusky, and the tail the colour of the body.

The most material incident in the economy of these animals, is the singular stratagem they adopt in taking their prey, which is generally some species of Deer. It is said that they climb into some tree, which they do with great facility, and carry along with them a quantity of moss, to which the Deer are very partial. When one of these animals approaches the tree, the Glutton throws down the moss. If the Deer stops to eat, the Glutton instantly darts upon his back, and, after fixing himself firmly between the horns, tears out its eyes, which torments the animal to such a degree, that, either to put an end to its torments, or to get rid of its cruel enemy, it strikes its head against the trees till it falls down dead. The Glutton divides its flesh into convenient portions, and conceals them in the earth for future provisions.* When the voracious animal has once firmly fixed himself by his claws and teeth, it is impossible to remove him. In vain does the unfortunate Stag seek its safety in flight, and if it does not, as has been asserted, kill itself, its enemy soon brings it to the ground by sucking its blood, and gradually devouring its body.†

The Gluttons feed also on Hares, Mice, Birds, or even on putrid flesh; and it is said by the Nor-

* The Gluttons on the river Lena kill Horses in a similar manner. *Gaz. Lit.* i. 481.

† Buff. Quad. vii. 277.

wegians, that they carry their voracity to such a degree, as to be obliged to relieve themselves by squeezing their over-swoln bodies betwixt two trees ; by this means exonerating their stomachs of that food which has not time to digest. If this creature seizes a carcase, even bigger than himself, he will not desist from eating so long as there is a mouthful left.

Pontoppidan was assured by a friend, a man of probity, that he had taken a Glutton alive, a circumstance which seldom takes place ; and when he was chained to a wall, his hunger drove him to attack even the stones and mortar.

He is so strong an animal that three stout Greyhounds are scarcely able to overcome him. One that was put into the water, had two Dogs let loose at it : the Glutton soon fixed his claws into the head of one of them, and had the sense to keep the animal under water till he was suffocated.

When the Glutton is attacked, he makes a stout resistance ; for he will tear even the stock from a gun with his teeth, or break the trap in pieces in which he is caught. He is, notwithstanding, capable of being rendered tame, and of learning many entertaining tricks.

In a state of nature he suffers men to approach him without exhibiting the least signs of fear, and without any apparent wish to avoid them. This may be the effect of living in desert countries, generally out of the sight, and consequently removed from the fear of man ; and of his always being the victor in his contentions with the animals.

He sometimes goes in quest of snares laid for other animals, but has too much sagacity to suffer himself to be taken. In countries where he is pretty common, the hunters complain heavily of his voraciousness in devouring their prey from the traps.*

He is hunted only for his skin, which is very valuable. The Kamtschadales esteem it so much, that they say the heavenly beings wear garments made of no other fur than this; and they would describe a man as most richly attired if he had on the skin of a Glutton. The women ornament their hair with the white paws of this animal, which they esteem a most elegant addition to their dress: and for the two fore paws, they will sometimes give a couple of Sea Otters. No Kamtschadale can make his wife or mistress a more valuable present than by giving her one of these skins.†

THE WOLVERINE.‡

The Wolverine is not uncommon in the Northern regions of America. It resembles the Wolf in size, and the Glutton in the figure of its head. The upper parts and the belly are of a reddish brown; the sides are yellowish brown, and a band of this colour crosses the back near the tail, which is long and of a chesnut colour. The face is black; the legs are very strong, thick, short, and black; and soles of the feet covered with hair.§

* Voy. de Gmel. iii. 492. quoted in Buff. vii, 279.

† Grieve. 99.

‡ SYNONYMS.—*Ursus Luscus*. Linn.—Quickhatch. Edwards.—*Wolverine*. Penn.—*Sharw's Gen. Zool.* pl. 105.

§ Kerr. i. 189.

Their pace is very slow, but their wonderful sagacity, strength, and acute scent, make ample amends for that defect. They burrow in the ground, and are said to be very fierce and savage, so much so as even to be a terror to the Wolves and Bears. They are also animals of great courage and resolution: one of them has been known to take possession of a Deer that an Indian had killed, and though the Indian advanced within twenty yards, he still kept possession, and even suffered himself to be shot standing on the fallen animal. They have also been frequently seen to take a Deer from a Wolf, before the latter had time to begin his repast after killing it. Indeed their amazing strength, and the length and sharpness of their claws, render them capable of making a strong resistance against every other animal of their own country.

As a proof of their surprising strength, there was one at Churchill, on Hudson's Bay, some years since, that overset the greatest part of a pile of wood, which measured upwards of seventy yards round, and contained a whole winter's firing, to get at some provisions that had been hidden there by the Company's servants, when going to the Factory to spend the Christmas Holidays. This animal had for many weeks been lurking about the neighbourhood of their tent, and had committed many depredations on the game caught in their traps and snares, as well as eaten many of the Foxes that were killed by guns set for the purpose; but he was too cunning to take either trap or gun

himself. The people thought they had adopted the most effectual method possible to secure their provisions, by tying them up in bundles, and placing them on the top of the wood-pile. They little thought the Wolverine would even have found out where they were ; and much less that he could get at them, if he did discover them. To their great surprise, however, when they returned, they found the greatest part of the pile thrown down, notwithstanding some of the trees that composed it were as much as two men could carry. The wood was very much scattered about, and to account for this they supposed, that in attempting to carry off his booty some of the small parcels of provisions had fallen down into the heart of the pile, and, sooner than lose half his prize, he was at the trouble of doing this. The bags of flour, oatmeal, and pease, though of no use to him, he tore all to pieces, and scattered the contents about on the snow ; but every bit of animal food, consisting of beef, pork, bacon, venison, salt-geese, and partridges, in considerable quantities, he carried away.

These animals are great enemies to the Beavers, which they sometimes take as they come from their houses, but the manner of life of the latter render them more difficult to come at than many other animals. They commit vast depredations on the Foxes during the summer, while the young ones are small : their quick scent directs them to the dens, and if the entrance be not large enough, their strength enables them to widen it, when they

go in and kill both the mother and her cubs. They are, in short, the most destructive animals of the country they inhabit.*

THE RACCOON.†

The Raccoon is a native of North America, and several of the West India Islands, where it is said to inhabit the hollows of trees. Its colour is grey ; and its head shaped somewhat like that of a Fox. The face is white ; and the eyes surrounded with black, from which a dusky stripe runs along the nose. The eyes are large, the ears short, and the upper jaw longer than the lower. The tail is very bushy and annulated with black. The back is somewhat arched ; the fore-legs shorter than the others ; and the feet are dusky, having five toes, with very sharp claws. Its length is about two feet, from the nose to the tail, and that of the tail about one foot.

Its food consists principally of maize, sugar-canes, and various sorts of fruits. It is also supposed to devour birds, and their eggs. When near the shores, the Raccoons live much on shell-fish, and particularly on oysters. We are told, that they will watch the opening of the shell, dextrously put in their paw, and tear out the contents : sometimes the oyster suddenly closes, catches the thief, and detains him, till he is drowned by the return of the tide. They feed likewise on crabs, and exhibit much cunning in taking them. Brickell, who re-

* Hearne, 370.

† SYNONYMS *Ursus Lotor*. Linn.—*Mapach*. Var.—*Le Raton*. Buffon. Raccoon. Penn.—*Shaw's Gen. Zool.* pl. 105.

lates these circumstances, says, that the Raccoon will stand on the side of a swamp, and hang its tail over into the water; which the Crabs, mistaking for food, lay hold of; and as soon as the animal feels them pinch, he pulls them out with a sudden jerk. He then takes them to a little distance from the water's edge, and, in devouring them is careful to get them cross-ways in his mouth, lest he should suffer from their nippers. A species of Land Crab, found in holes of the sand in North Carolina, is frequently the food of the Raccoon: he takes them by putting one of his fore-paws into the ground, and hawling them out.* They feed chiefly by night; as, except in dull weather, they sleep during the greatest part of the day.

The Raccoon is an active and sprightly animal. He has a kind of oblique gait in walking: his extremely sharp claws enable him to climb trees with great facility, and he ventures to run even to the extremities of the branches.

It is easily tamed, and is then good-natured and sportive; but is almost constantly in motion, and as unlucky and inquisitive as a monkey, examining every thing with its paws, which it uses as hands to lay hold of whatever is given it, and to carry its meat to its mouth. It sits up to eat, is extremely fond of sweet things, and strong liquors, with which it will get excessively drunk. It washes its face with its feet, like a Cat.

* Brickell, 123.—Lawson, 121.

M. Blanquart des Salines, had in his possession a Raccoon, of which he has given the following particulars :

Before it came into his possession, it had always been chained. In this state of captivity it was very gentle, but had little inclination to caress. His chain sometimes broke, and liberty rendered him insolent. He took possession of an apartment, would allow none to enter ; and it was with some difficulty, that he could again be reconciled to bondage. When permitted to be loosed from his confinement, he however would express his gratitude, by a thousand caressing gambols. But this was by no means the case, when he effected his own escape. He would then roam about, sometimes for three or four days together, upon the roofs of the neighbouring houses, descend, during the night, into the court-yards ; enter the hen-roosts, strangle all the poultry, and eat their heads. His chain rendered him more circumspect, but by no means more humane. When in his confinement, he employed every artifice to make the fowls grow familiar with him ; he permitted them to partake of his victuals : and it was only after having inspired them with the greatest notions of security, that he would seize one, and tear it in picces. Some young Cats met with the same fate.

He used to open oysters with wonderful dexterity. His sense of touching was very exquisite ; for, in all his little operations, he seldom made use of either his nose, or his eye. He would make an oyster pass under his hind paws ; then, without

looking at it, search with his fore-paws for the weakest part, there sinking his claws, he would separate the shells, and leave not a vestige of the fish.

He was extremely sensible of ill treatment.—A servant, one day, gave him several lashes with a whip, but the man ever afterwards endeavoured in vain to accomplish a reconciliation. Neither eggs, nor fish, of which he was exceedingly fond, could appease his resentment. At the approach of the servant, he always flew into a rage; his eyes kindled, he endeavoured to spring at the man, uttered the most dolorous cries, and rejected every thing presented to him, till the disagreeable object disappeared.

He never allowed hay or straw to remain in his nest; but chose rather to lie upon wood. When litter was put in, he instantly threw it out.

Every thing he ate, he used (as indeed the whole species do) to soften, or rather dilute, in water, by immersing it in the vessel, that contained the water that was given to him. The defect of saliva, or having but a small quantity of it, is most probably the cause of his adopting this mode. This immersion only took place with dry food, for fresh or bloody meat, peaches, or raisins, he ate without it.

He abhorred children; their crying irritated him, and he made every effort to spring upon them. A small Bitch, of which he was fond, he chastised severely, when she barked too loud.*

* Buff. Quæd. 7. 50.

According to Linnæus, the Raccoon has a wonderful antipathy to hog's bristles: and is much disturbed at the sight of a brush. The female produces two young at a birth, which commonly takes place about May.

The animal is hunted for its fur, which is used by the hatters, and considered as next in value to that of the beaver: it is used also, in linings for garments. The skins, when properly dressed, make good gloves, and upper-leathers for shoes.—The Negroes frequently eat the flesh of the Raccoon, which they are very fond of.*

THE BADGER. †

The Badger is an animal well known in this country. Its general length is about two feet and a half, and that of the tail six inches. Its body and legs are thick: the eyes and ears are small, and the claws of the fore legs long and straight. It is of an uniform grey colour above, and in the under parts entirely black. The face is white, and along each side of the head, runs a black pyramidal stripe, which includes the eyes and ears. The hair is coarse and the teeth and claws peculiarly strong.—It is occasionally found in all the temperate parts of Europe and Asia.

Though in itself a harmless and inoffensive ani-

* Brickell's Nat. Hist. of Carolina.

† SYNONYMS.—*Ursus Meles*. Linn.—Common Badger. Penn.—Brock. Grey-pate. Ray—Blaireu. Buffon.—Shaw's Gen. Zool. pl. 106. *Erw Quad.* 254.

mal, living principally on roots, fruit, and other vegetable food, it has been provided by nature, with such weapons, that few animals can attack it with impunity. The address and courage with which it defends itself against carnivorous animals, have caused it to be frequently baited with dogs for the amusement of men. Though naturally of an indolent disposition, he now exerts the most vigorous efforts, and very frequently inflicts the most desperate wounds on his adversaries. The skin is so thick and loose, as not only to resist the impressions of the teeth, but also to suffer him, though within their gripe, to turn round upon and bite them in the most tender parts. In this manner does he resist the repeated attacks, both of men and dogs, from all quarters; till, being overpowered with numbers, and enfeebled by wounds, he is at last obliged to submit.*

The Badger inhabits woody places, in the clefts of rocks, or in burrows which he forms in the ground. He is a very cleanly animal, keeping his subterraneous mansion exceedingly neat. He continues in his habitation during the day, and does not make his appearance abroad till the evening. At times, from indulging in indolence and sleep, he becomes excessively fat. During the severe weather of winter he remains in a torpid state in his den, sleeping on a commodious bed, formed of dried grass. Under the tail is a receptacle, in which

* Bew. Quad. 255.

is secreted a white fetid substance, that constantly exudes through the orifice, and thus gives to the animal a most unpleasant smell.*

These animals are not known to do any further mischief to mankind, than in scratching and rooting up the ground, in search of food, which is always performed during the night. From this circumstance arises one of the modes usually practised for taking them. Their den is discovered, and when they are abroad in the night, a sack is fastened at the mouth. One person remains near the hole to watch, while another beats round the fields with a dog, in order to drive them home. As soon as the man at the hole hears that one has run in for refuge, he immediately seizes the mouth of the sack, ties it up, and carries it off. This mode, in many parts of the country, is called, "Sacking the Badger." Sometimes they are caught in steel traps, placed in their haunts.

They live in pairs, a male and female together, and produce in the spring four or five young. If caught before they are grown, they may be tamed.

The skin, dressed with the hair on, is used for a variety of purposes; and the hairs are made into brushes for painters. The flesh, when the animals are well fed, makes excellent hams and bacon.

* Kerr. i. 187.

THE OPOSSUMS.



We now arrive at a race of Quadrupeds, so singular in their conformation, as, on their first discovery, to have excited the surprize and admiration of mankind in general. The females of most of the species are furnished with abdominal pouches for the protection and preservation of their young : in some of these are two, in others three distinct cavities, which can be shut or opened at pleasure, being provided with two bones for that purpose. In these pouches the young remain, hanging to the nipples, till they are large enough to run about.

These animals are principally confined to the New Continent, and only one species has yet been discovered as native of Europe.

Besides the abdominal pouch already mentioned, the characters of the present genus are, ten front-teeth in the upper, and eight in the lower-jaw ; in the former of which the two middle ones are the longest, and in the latter the two in the middle are broader and very short. The canine-teeth are long, and the grinders indented. The tongue is somewhat rough, being furnished with pointed papillæ.

THE VIRGINIAN OPOSSUM*

Is about the size of a small Cat : it appears, however, from the upright growth of its fur to

* SYNONYMS.—*Didelphis Virginiana*. *Shaw*.—*Didelphis Marsupialis* *Didelphis Opossum*? *Linn*.—*Opossum*. *Phil. Tran*.—*Virginian Opossum*. *Shaw*.—*Shaw's Gen. Zool. pl.* 107.

its fur to be much thicker. Its general colour is a dingy white : its head is long, and sharpened ; its mouth wide ; ears thin, naked, round, and blackish, but edged with a white border. The tail is about a foot long, prehensile, hairy at its origin, but afterwards covered with a scaly skin, which gives it very much the appearance of a snake. The legs are short, blackish, and all the toes, except the two interior ones, which are flat and rounded, with nails like those of the Monkey-tribe, are armed with sharp claws.

When it is on the ground the Opossum appears to be a very helpless animal : the formation of its hands prevents it from either running or walking very fast, but in recompence for this apparent defect, it is able to ascend trees with the utmost facility and expedition ; and, by the help of its prehensile tail, it is more active in this situation than most quadrupeds. It hunts eagerly after birds and their nests, and is very destructive to poultry, of which it sucks the blood without eating the flesh. It also eats roots and wild fruits.*

When it is pursued and overtaken it will feign itself dead, till the danger is over ; and, if we may believe the account of Du Pratz, it will not, when taken in this situation, yield any signs of life, though even placed on a red-hot iron ; and when there are any young in the pouch of a female, she will suffer both herself and them to be roasted alive rather than give them up. They never move

* Church.

till their disturber is either gone to a distance, or has hidden himself, on which they endeavour to scramble, with as much expedition as possible, into some hole or bush.*

They are very tenacious of life, and cannot, without great difficulty, be killed. Although in some instances that Dr. Brickell mentions, the skull was shattered to pieces, and they appeared perfectly lifeless, yet, in the course of a few hours afterwards, they have in some measure revived, and he has seen them in the act of creeping about. In North Carolina it is a well-known adage, "If a Cat has nine lives the Opossum has nineteen."†

When the female is about to litter, she selects a place in the thick bushes, at the foot of some tree. Assisted by the male, she then collects together a quantity of fine dry grass; this is loaded upon her belly, and the male drags her and her burthen by the tail to the nest.‡ She produces from four to six at a time. As soon as they come into the world, they retreat into a pouch or false belly which she has, blind, naked, and exactly resembling little foetuses. They fasten closely to the teats as if they grew to them. Here they remain, adhering as though inanimate, till they arrive at some degree of perfection in shape, and obtain their sight, strength, and hair: after which they undergo a sort of second birth. From that time they use the pouch as an asylum from danger. The female carries them about with

* Du Pratz, 265.
Pratz, 265.

† Brickell, 125.—Lawson, 120.

‡ Du

the utmost affection, and they may frequently be seen sporting in and out of this false belly. Whenever they are surprized, and have not time to retreat into the pouch; it is said, that they will adhere to the tail of the parent, and thus still endeavour to escape with her.*

The American Indians spin the hair of the Opossum, and dye it red, then weave it into girdles, and other parts of their dress. The flesh is white, well-tasted, and preferred by the Indians to pork; that of the young eats very much like sucking-pig.†

THE MERIAN OPOSSUM.

We have little other description of this small animal than that inserted in Madame Merian's splendid illustration of the insects of Surinam, from whom it has received its name. The following is her account of it: "By way of filling up a plate, I have represented a kind of Wood-rat, that always carries her young ones (of which there are commonly five or six) upon her back: she is of a yellow brownish colour, and white beneath: when these Rats come out of their hole, either to play or to seek their food, they run about with their mother, and when they are satisfied with food, or apprehensive of danger, they climb up again on her back, and twist their tails round that

* Penn. Arct. Zool. i. 74.

† Brickell, 125.—Du Pratz, 265.

‡ SYNONYMS.—*Didelphis Dorsigera*. Linn.—*Surinam Opossum*. Kerr.—*Philandre de Surinam*. Buffon.—*Merian Opossum*. Penn.—*Shaw's Gen. Zool. pl. 108.*

of the parent, who runs with them into her hole again."

The paws resemble those of the Ape, having four fingers and a thumb, with small rounded nails. The hind feet have four sharp claws, and a round nail on the thumb of each.*

THE KANGUROO TRIBE.

THE Kangaroos, of which only two species have yet been discovered, and both of these in New Holland, are furnished, like the Opossums, with an abdominal pouch. This, and a few other characters that they have in common with that tribe, caused them to be arranged, by Linnæus, in the *Systema Naturæ*, along with the Opossums: they have, however, since, been taken into a separate genus, with the following characteristics:—

Six front teeth in the upper jaw, emarginated; and two in the lower, very large, long, sharp, and pointing forwards: grinders five on each side, in both jaws, distant from the other teeth. Fore legs very short, and hind legs very long; and in the female an abdominal pouch containing the teats.†

* Kerr. i. 195.—Shaw, i. 485.

† Shaw, i. 505.

THE GREAT KANGUROO.*

This singular quadruped, which was first discovered in New Holland, in the year 1770, by Captain Cook, has frequently been found near nine feet in length, from the tip of the nose to the end of the tail; and some of the species have been found to weigh so much as a hundred and fifty pounds, though this is generally believed to be by no means the largest size they will arrive at. The greatest circumference of the animal is round the bottom of the belly and hips; being very small about the head and neck, and increasing gradually downwards. The fore legs of the largest are about nineteen inches in length; the hinder ones three feet seven inches. The shortness of the former would seem to prevent their being applied to the purpose of walking, and it has been universally conjectured, that they were of use to the animal merely in digging its burrows in the ground, and in carrying food to its mouth; but M. Labillardiere says that one of his crew shot a young Kangaroo upon the shore, and he was considerably surprised to observe that it used all its four feet in running, and did not support itself on the hinder feet only.† The hind legs are very strong; and, when sitting, the Kangaroo rests on them the whole of their

* SYNONYMS.—*Macropus Major*. *Shaw*.—*Macropus Giganteus*. *Nat. Miscell.*—*Didelphis Gigantea*. *Linn.*—*Gigantie Jerboa*. *Zimmerman*.—*Kanguru*. *Var.*—*Great Kangaroo*. *Shaw*.—*Shaw* *Gen. Zool.* pl. 115. —*Bew. Quad.* 404.

† Labillardiere, i. 177.

length, the rump being elevated several inches from the ground; their under part is callous and bare. The claws are only three in number, the middle one exceeding the others greatly in length and strength; but the inner one is of a peculiar structure, at first sight appearing single, though on farther inspection it is seen to be really divided down the middle, and even through the ball of the toe belonging to it, appearing as if separated by a sharp instrument.

From the make of the animal there can be little doubt but its principal progressive motion must be, notwithstanding the remark of M. Labillardiere, by leaps; and in these it has been seen to exceed twenty feet at a time, and this so often repeated, as almost to elude the swiftness of the fleetest Greyhound; besides which, it will frequently bound over obstacles of nine feet or more in height, with the greatest ease.

They have also vast strength in their tails, which, when attacked, they use as a weapon of defence; for with it they can strike with astonishing force; with sufficient even to break the leg of a man. The colonists for some time considered this as their chief defence, but having of late hunted them with Greyhounds, they soon discovered that the animal used both its claws and teeth. As soon as the Hound seizes him, he turns, and catching hold with the nails of his fore paws, strikes the Dog with the claws of his hind feet, which are wonderfully strong, and tears him to such a degree, that it has frequently happened

that the hunters have been under the necessity of carrying the Dog home on account of the severity of his wounds.*

The native Dogs of the country hunt and kill the Kangaroo; but they are more fierce than our Greyhounds. In the year 1788, one of them was seen by one of the colonists, in pursuit of a Kangaroo; this person, till he had shot the Dog, mistook them both for Kangaroos.†

The Kangaroo generally feeds on its four feet in the manner of other quadrupeds. It drinks by lapping. When in a state of captivity, it has sometimes a way of springing forwards and kicking with its hind-feet in a very forcible manner; during which action it rests or props itself on the base of its tail.‡

The female has two mammæ, or breasts, in the abdominal pouch, on each of which are two teats; yet, so far as has been hitherto observed, the animal produces but one at a birth; and so exceedingly diminutive is the young, at its first exclusion from the uterus, that it scarcely exceeds an inch in length, and weighs but twenty-one grains. At this early period of its growth, the mouth is merely a round hole, just large enough to receive the point of the nipple; but this gradually enlarges with age, till capable of receiving the whole nipple into its mouth, where it lies in a groove, formed in the middle of the tongue, and well adapted to that purpose. It seems probable that in the first state it is attached to the teat by a viscid gelati-

* Hunter, 66,

† Ibid, 67.

‡ Shaw, i. 510,

nous substance, which is always found in the uterus. At this time, feeble as it may appear in other respects, the fore paws are, comparatively, large and strong, and the claws extremely distinct, to facilitate the motion of the little animal during its residence in the large pouch; while the hind legs, which are afterwards to become very long and stout, are now both shorter and smaller than the others. The young continues to reside in the pouch till it has attained its full maturity: occasionally running out of it for exercise or amusement, and even after it has quitted this maternal retreat, it always runs into it for shelter on the least appearance of danger.*

The Kanguroos feed entirely on vegetable substances, and chiefly on grass. In their native state they are said to feed in herds of thirty or forty together; and one is generally observed to be stationed, apparently, as if on the watch, at a distance from the rest. According to Labillardiere, they seem to be nocturnal animals: they have the eye furnished with nictitating membranes, situated at the interior angle, and capable of being extended at pleasure, entirely over the ball.—They live in burrows which they form in the ground.†

One of the most remarkable peculiarities of this animal, is the extraordinary faculty which it possesses of separating at pleasure, to a considerable distance, the two long fore teeth in the lower

* Phil. Tran. for 1795, Part i, p. 21. † Labillardiere, i. 177. ii. 18.

jaw. This faculty, however, is not absolutely peculiar to the Kangaroo, but takes place in an animal of a very different and distinct genus, namely, the *Mus Maritimus*.*

The flesh of the Kangaroo is said to be somewhat coarse, and such as to be eaten rather in defect of other food than as an article of luxury. Mr. Hunter however, calls it good mutton, but says it is not quite so delicate as what he has sometimes seen bought in Leadenhall Market.†

The Kangaroo may now be considered as in a great degree naturalized in England; several having been kept for some years in the royal domains at Richmond, which have, during their residence there, produced young, and seem to promise to render this most elegant animal a permanent acquisition to our country; though it must, no doubt, lose, by confinement and alteration of food, several of its natural habits, and exhibit somewhat less of that bounding vivacity which so much distinguishes it in its native wilds of New Holland.‡

THE MOLES.

THE animals composing this tribe are readily distinguished from all others: their external appearance and habits are alone sufficient to mark them. The body is thick, and somewhat cylin-

* Linn. Gmel. i. 140.

† Hunter, 66.

‡ Shaw, i. 512.

cylindrical, and their snout formed like that of the Hog, for rooting in the ground for the worms, their principal food. The fore-feet are strong, and well calculated for digging those retreats in the earth in which they entirely reside. They have no external ears, and the eyes are very small and completely hidden in the fur. There are *seven* species.

In the upper-jaw the Moles have six unequal front-teeth, and in the lower jaw, eight: on each side of each jaw is one canine-tooth, the upper ones of which are the largest; and there are seven grinders in the upper, and six in the under-jaw.*

THE COMMON MOLE †

Is so well-known in our country, that any particular description of its figure is unnecessary. Destined by nature to seek a subsistence under the surface of the ground, its fore-legs, which are very short, and excessively strong and broad, are situated outwards, and furnished with large claws, by which it is enabled to work away the earth from before it with the utmost ease: its hind-feet, which are much smaller, are calculated for throwing back the mould during its subterraneous progress. The snout is also slender, strong, and tendinous, and it has no appearance of a neck. Its general length is between five and six inches.

* Linn. Gmel. i. 110.

† SYNONYMS.—*Talpa Europea*. Linn.—European Mole. Penn.—Mole. Mold-warp, or Want. Ray.—*Taupe*. Buffon.—*Shaw's Gen. Zool.* pl. 117.—Brew. *Quad.* 392.

The eyes of the Mole are extremely small, so much so, that many have doubted whether they were intended for distinct vision, or only to afford the animal so much sensibility of the approach of light as sufficiently to warn it of the danger of exposure. They have, however, been proved to contain every property necessary to distinct vision.

The power of hearing is said to be possessed by the Mole in a very eminent degree ; and if at any time it emerges from its retreat, it is, by this means, enabled instantly to disappear on the approach of danger.

The females bring forth, about the month of April, four or five young : and the habitations in which these are deposited are constructed with peculiar care and intelligence. The parent animals begin their operations by raising the earth and forming a pretty high arch. They leave partitions, or a kind of pillars, at certain distances, beat and press the earth, interweave it with the roots of plants, and render it so hard and solid, that the water cannot penetrate the vault, on account of its convexity and firmness. They then elevate a little hillock under the principal arch ; upon this they lay herbs and leaves for a bed for their young. In this situation they are above the level of the ground, and consequently beyond the reach of ordinary inundations. They are, at the same time, defended from the rains by the large vault that covers the internal one, upon the convexity of which last they rest along with their young. This internal hillock is pierced on all sides with sloping holes, which de-

scend still lower, and serve as subterraneous passages for the mother to go out in quest of food for herself and her offspring. These bye-paths are beaten and firm, they extend about twelve or fifteen paces, and issue from the principal mansion like rays from a centre. Under the superior vault we likewise find remains of the roots of the meadow saffron, which seem to be the first food given to the young.

In summer the Mole descends to the low hillocks and flat land, and, above all, makes choice of meadows for the place of its residence, because it finds the earth there fresher and softer for it to dig through. If the weather continues long dry, it repairs to the borders of ditches, the banks of rivers and streams, and to places contiguous to hedges.

It seldom forms its hole more than five or six inches under the surface, in the act of doing this it scrapes the earth before it on one side, till the quantity becomes too great for it to labour onwards with ease ; it then works towards the surface, and by pushing with its head, and the assistance of its nervous paws, gradually raises the earth which incommodes it, and this produces those small hills so common in our fields. After getting rid of the earth in this manner it proceeds forwards, and continues its labour as before ; and a person may easily discover how many Moles are contained in a certain space of ground, by counting the fresh raised Mole-hills which have no communication with each other.

Moles, like the Beavers, and some other quadrupeds, live in pairs, and so lively and reciprocal an attachment subsists between them, that they seem to disrelish all other society. In their dark abodes they enjoy the placid habits of repose and of solitude; they also possess the art of securing themselves from injury, of almost instantaneously making an asylum or habitation, and of procuring a plentiful subsistence without the necessity of going abroad. They shut up the entrance to their retreats, and seldom leave them, unless compelled by the admission of water, or when their mansions are demolished by art.

The Mole is chiefly found in grounds where the soil is loose and soft, and affords the greatest quantity of Worms and insects on which it principally feeds. During the summer these animals run in search of food, in the night, among the grass, and thus frequently become the prey of Owls. They exhibit a considerable degree of art in skinning the worms, which they always do before they eat them, stripping the skin from end to end, and squeezing out all the contents of the body.

The verdant circles in the meadows and pastures, called by country people *fairy-rings*, are supposed to be owing to the operations of the Moles, who, at certain seasons, perform their burrowing by circumgyrations, which, loosening the soil, gives to the surface above these tracks, greater fertility and rankness of grass than is seen in other parts.*

* Penn. Brit. Zool. i. 131, 132.

When it is first taken, either by digging or otherwise, the mole utters a shrill scream, and prepares for its defence by exerting the strength of its claws and teeth. It is said to be a very ferocious animal, and that however contented they may be together underground, yet when above they will sometimes tear and eat one another. In a glass case, in which a Mole, a Toad, and a Viper were inclosed, the Mole has been known to dispatch the other two, and to devour a great part of them both.

The skin of the Mole is extremely tough ; its fur close set, and softer than the finest velvet, or, perhaps than the fur of any other animal : it is usually black, but Moles have been found spotted with white, and sometimes, though only rarely, they have been seen altogether white. This animal is said to be entirely unknown in Ireland.

Linnæus says that it passes the winter in a state of torpidity, in this, however, he is directly contradicted by the Comte de Buffon, who observes, that it sleeps so little in the winter, that it raises the earth in the same manner as during the summer ; and, that it is a common remark among the country people of France, that a thaw approaches when the Moles make their hills.

The following is a very remarkable instance, related by Arthur Bruce, Esq. in the Transactions of the Linnean Society, of the power which the Mole sometimes exerts in swimming.

“ In visiting (says this gentleman) the loch of Clunie, which I often did, I observed in it a small

island at the distance of one hundred and eighty yards from the nearest land, measured to be so upon the ice. Upon the island, Lord Airly, the proprietor, has a castle and a small shrubbery. I observed frequently the appearance of fresh Mole-casts or hills. I for some time took it to be the Water-mouse ; and one day asked the gardener if it was so? No, he said, it was the Mole, and that he had caught one or two lately. But that five or six years ago he had caught two in traps ; and for two years after this he had observed none. But about four years ago, coming ashore one summer's evening in the dusk, he and another respectable person (Lord Airly's butler) saw, at a small distance, upon the smooth water, some animal paddling to, and not far distant from, the island. They soon closed with this feeble passenger, and found it to be our common Mole, led by a most astonishing instinct, from the nearest point of land (the Castle-hill), to take possession of this desert island. It was at this time, for the space of two years, quite free from any subterraneous inhabitant ; but the Mole has, for more than a year past, made its appearance again, and its operations I was witness to."—The depth of water in this lake is seldom less, either in summer or winter, than six feet in the shallowest, and from thirty to forty in the deepest parts.

People in general are not aware of the great mischief occasioned in fields and gardens by these animals. We are, however, informed by M. Buffon, that in the year 1740 he planted about six-

teen acres of land with acorns, and that the greater part of them was in a very short time carried away by the Moles to their subterraneous retreats. In many of these were found half a bushel, and in some so much as a bushel. Buffon, after this circumstance, caused a great number of iron traps to be constructed, by which, in less than three weeks he caught 1300 Moles. To this instance of devastation we may add the following: in the year 1742 they were so numerous in some parts of Holland, that one farmer alone caught between five and six thousand of them. The destruction occasioned by these animals is, however, no new phenomenon. We are informed that the inhabitants of the island of Tenedos, the Trojans, and the Æolians, were infested by them in the earliest ages; and for this reason a temple was erected to Apollo Smynthius, the destroyer of Moles.

We shall conclude this article with Dr. Darwin's account of the habitations of Moles; and an account of the modes in which they are to be taken.

“ The Moles (says this writer) have cities underground, which consist of houses, or nests, where they breed and nurse their young. Communicating with these are wider and more frequented streets, made by the perpetual journies of the male and female parents; as well as many other less frequented allies or bye-roads, with many diverging branches, which they daily extend to collect food for themselves or their progeny.

“ This animal is most active in the vernal months, during the time of courtship of the males ; and many more burrows are at this time made in the earth for their meeting with each other. And though these animals are commonly esteemed to be blind, yet they appear to have some perception of light, even in their subterraneous habitations ; because they begin their work as soon as it is light, and consequently before the warmth of the sun can be supposed to affect them.

“ Hence one method of destroying them consists in attending to them early, before sunrise ; at that time the earth or the grass that is upon it may frequently be seen to move over them, and with a small light spade their retreat may be cut off by striking it into the ground behind them, and they may be immediately dug up.”*

If a fresh Mole-hill, says another writer, is found standing by itself, that seems to shew by its situation that it has no communication with any other, which is always the case when the Mole has worked from the surface downwards, as it frequently does in endeavouring to procure a more convenient habitation, after the hill has been turned up by a spade, a bucket of water should be poured over the mouth of the passage : by these means the animal, which is at no great distance, will be obliged to come forth, and may be easily caught with the hand.

It is very easy to discover whether a hill has any

* Darwin's *Phytologia*, 370.

communication with another, by applying the ear to it, and then coughing or making a loud noise; if it has no communication, the terrified animal may be heard making a noise by its motion. It will then be almost impossible for it to escape, and water may either be poured into the hole, or the earth may be turned up with a spade till the Mole is found, for it does not often go deeper into the earth than from fifteen to eighteen inches.

In the moist beds of a garden, which it is very fond of, the Mole makes a passage at the depth of scarcely an inch below the surface. In this case it is easily caught. When seen at work here it is only necessary to tread behind the animal with the foot, on the passage, to prevent its retreat, and then turn it up with a spade.

“The Mole, (continues Dr. Darwin, whose account we resume), suckles four or five, and sometimes six young ones; which are placed considerably deeper in the ground than the common runs; and as these nests are sunk much deeper into the ground than the streets or bye-roads, so the Mole-hills near them are consequently larger, and generally of a different colour. These nests are to be dug up, having first intercepted the road between them and the Mole-hills in the vicinity, to cut off the retreat of the inhabitants.

“The next important circumstance is to discover which are the frequented streets, and which the bye-roads, for the purpose of setting subterraneous traps. This is effected by making a mark on every

new Mole-hill, by a light pressure of the foot ; and on the next morning by observing whether a Mole has again passed that way, and obliterated the foot-mark : this is to be done two or three successive mornings. These foot-marks should not be deeply impressed, lest the animal be alarmed on his return, and should be induced to form a new branch of road, rather than open the obstructed one.

“ The traps are then to be set in the frequented streets, so as nicely to fit the divided canal. They consist of a hollow semi-cylinder of wood, with grooved rings at each end, in which are placed two nooses of horsehair, one at each end, fastened loosely by a peg in the centre, and stretched above ground by a bent stick. When the Mole has passed half way through one of the nooses and removes the central peg in his progression, the bent stick rises by its elasticity, and strangles the animal.”*

THE HEDGEHOG TRIBE.

THE Hedgehogs have two front teeth, both above and below ; of which those in the upper jaw are distant, and those of the lower placed near together. On each side there are canine teeth ; in the upper jaw five, and in the lower three. There

* Darwin's *Phytologia*, 371, 372.

are also four grinders on each side, both above and below ; and the body is covered on the upper parts with spines.* The tail and feet are very short, and the snout is somewhat cartilaginous.

There are *seven* species, none of which are carnivorous. Of these only one is found in Europe, and this is common in several parts of England.

THE COMMON HEDGEHOG.†

These animals are natives of most of the temperate parts of Europe and Asia : they are generally about ten inches long, and of a greyish brown colour.

Their usual residence is in small thickets, and they feed upon fallen fruits, roots, and insects ; they are also very fond of flesh-meat, either raw or roasted. They chiefly wander about by night, and during the day lie concealed in their holes.

Naturalists have alledged that they go into gardens, mount trees, and come down with pears, apples, or plums, stuck upon their bristles. This however is a mistake, for, if kept in a garden, they never attempt to climb trees, or even to stick fallen fruit upon their bristles, but lay hold of their food with the mouth.—They also lie under the undeserved reproach of sucking cattle and injuring their udders ; but the smallness of their mouths renders this altogether impossible.

* Linn. Gmel. i. 115,

† SYNONYMS.—*Erinaceus Europæus*. Linn.—Common Hedgehog, Common Urchin. Penn.—*Hérissen*. Buffon.—*Shazv's Gen. Zool. pl.* 121. —*Bezv. Quad.* 448.

Mr. White says, that the manner in which the Hedgehogs eat the roots of the plantain in his grass-walks is very curious : with their upper mandible, which is much longer than the lower, they bore under the plant, and gnaw the root off upwards, leaving the tuft of leaves untouched. In this respect they are serviceable, as they destroy a very troublesome weed ; but they, in some measure, deface the walks by digging in them little round holes.

The Hedgehog has a very uncommon method of defending itself from the attacks of other animals. Being possessed of very little strength or agility, he neither attempts to fly from nor assail his enemies ; but erects his bristles, and rolls himself up like a ball, exposing no part of his body that is not furnished with his sharp weapons of defence. He will not unfold himself unless thrown into water, and the more he is frightened or harassed, the closer he shuts himself up. While in this state, most Dogs, instead of biting him, stand off and bark, not daring to seize him ; and, if they attempt it once, their mouths are so pricked with his bristles, that it is with difficulty they can be prevailed upon to do it a second time. He is easily taken, for he neither attempts to fly, nor to defend himself by any other means than this.

The shameful barbarity of anatomists furnishes us with an amazing instance of patience in this animal. One that was dissected alive, and whose feet were nailed down to the table, endured that, and

every stroke of the operator's knife, without uttering even a single scream.*

The Hedgehog may be rendered, in a very considerable degree, domestic ; and it has been frequently introduced into houses for the purpose of expelling those troublesome insects the *Blattæ*, or Cockroaches, which it pursues with avidity, and on which it is fond of feeding. By the Calmuc Tartars these animals are kept in their huts instead of Cats.

There was a Hedgehog, in the year 1799, in the possession of a Mr. Sample, of the Angel-inn at Felton in Northumberland, which performed the duty of a turn-spit, as well in every respect as the Dog of that name ; ran about the house as familiarly as any other domestic quadruped ; displayed a facility till then unknown in this species of animals, and used to answer to the name of Tom.

In the winter the Hedgehog wraps itself up in a warm nest of moss, dried grass, and leaves ; and sleeps out the rigours of that season. It is frequently found so completely encircled with herbage, on all sides, that it resembles a ball of dried leaves ; but when taken out, and placed before a fire, it soon recovers from its state of torpidity.

It produces four or five young at a birth, which are soon covered with prickles, like those of the parent animal, but shorter and weaker. The nest formed for these is large, and composed principally of moss.

* Penn. Brit. Zool. i. 135.

It is occasionally an article of food, and is said to be extremely delicate eating. The skin may be successfully used in the place of a clothes-brush, and it was in fact used by the ancients for this purpose.

The Hedgehog differs very materially from the Porcupine, which at first sight it seems much to resemble, both in the structure of its teeth, and in the shortness of its spines or quills.



THE PORCUPINES.*

The animals of this tribe have two front-teeth, cut obliquely, both in the upper and under jaw; and eight grinders: four toes on the fore, and five on the hind feet; and the body covered with spines, intermixed with hair.†

To a superficial observer, they would seem entitled to a place among the Hedgehogs; but they have no farther similitude than merely in the spiny covering of their bodies. None of the species are supposed to be carnivorous.

THE COMMON PORCUPINE.‡

The general length of this Porcupine, is about two feet and a half from the head to the end of the tail. The upper parts of the animal are covered with hard and sharp spines, some of which measure from nine to fifteen inches in length: these are variegated with alternate black and white rings; and as some of them are attached to the skin only by a delicate pedicle, they easily fall off. They are complete quills, wanting only the vane to be real fea-

* The Linnean Order GLIRES commences with the Porcupines.

† Linn. Gmel. i. 118.

‡ SYNONYMS —*Hystrix Cristata*. Linn.—Crested Porcupine. *Pennant*.—*Porc-epic*. *Buffon*.—*Shaw's Gen. Zool. pl. 122*.—*Bew. Quad.*

thers. The animal has the power of elevating or depressing them at pleasure ; and when he walks, they (but those in particular about the tail) make a rattling noise, by striking against each other.* The head, belly, and legs, are covered with strong dusky bristles, intermixed with softer hairs : on the top of the head, these are very long, and curved backwards, somewhat like a ruff or crest.

This animal is a native of Africa, India, and the Indian Islands ; and is said sometimes to be found even in Italy and Sicily. It inhabits subterraneous retreats, which it is said to form into several compartments, leaving two holes, one for an entrance, and the other, in case of necessity, to retreat at. It sleeps during the day time, and makes its excursions for food, which consists principally of fruits, roots, and vegetables, in the night. Although able to support hunger for a long time, and apparently without inconvenience, it always eats with a very voracious appetite. In the gardens, near the Cape of Good Hope, these creatures do much damage. When they have once made a path through a fence, they always enter by it, so long as it continues open ; and this gives the inhabitants an opportunity of destroying them. When a breach is discovered, they place a loaded gun, in such a manner, that the muzzle will be near the animal's breast, at the time he is devouring a carrot or turnip, that pulls the string of the trigger.†—The teeth are very sharp and strong. M. Bosman, when on the Coast

* Buff. Quad. vii. 75.

† Kolben ii. 119.

of Guinea, put one of them into a strong tub, in order to secure him, but, in the course of one night, he eat his way through the staves, even in a place where they were considerably bent outwards, and escaped.*

In its manners, it is very harmless and inoffensive, never itself becoming the aggressor; and, when pursued, it climbs the first tree it can reach, where it remains, till the patience of its adversary is exhausted: when, however, he is roused to self-defence, it is not even the Lion, that dare venture to attack him.†

The late Sir Ashton Lever, had a live Porcupine, which he frequently turned out on the grass behind his house, to play with a tame Hunting Leopard, and a large Newfoundland Dog. As soon as they were let loose, the Leopard and Dog began to pursue the Porcupine, who always at first endeavoured to escape by flight; but, on finding that ineffectual, he would thrust his nose into some corner, making a snorting noise, and erecting his spines, with which his pursuers pricked their noses, till they quarrelled between themselves, and thus gave him an opportunity to escape.‡

It has been asserted by many credulous travellers, that the Porcupines, when much provoked, dart their quills at the object by which they are enraged. This opinion, however, has been fully

* Bosman, 237.

† Church.—Kolben.

‡ Church.

refuted by many accurate naturalists, who have taken the pains to inquire into the matter. Their usual method of defence, is to recline themselves on one side, and, upon the enemies approach, to rise up quickly, and gore him with the erected prickles of the other. It is also said, that when this animal meets with serpents, against whom he carries on a perpetual war, he closes himself up like a ball, concealing his head and feet, and then rolls upon and kills them with his bristles, without running any risk of being wounded himself.*—M. Le Vaillant says, that, owing to some pernicious quality in the quills, one of his Hottentots, who had received a wound in the leg from a Porcupine, was ill for more than six months. He also informs us, that a Gentleman, at the Cape, in teasing one of these animals, received a wound in the leg, which nearly occasioned his loss of the limb; and notwithstanding every possible care, he suffered cruelly from it for above four months, during one of which he was confined to his bed.†

When the animal is moulting or casting its quills, a circumstance that may have given rise to the report of its darting them at its enemies, it sometimes shakes them off with so much force, that they will fly to the distance of a few yards, and even bend their points against any hard substance they may happen to strike.—Claudian is the most ancient

* Shaw ii.

† Vaillant's Travels, i. 321.

writer, that has been cited for the above strange opinion. The following is a translation of his lines :

Arm'd at all points, in Nature's guardian mail,
See the stout Porcupine his foes assail ;
And, urg'd to fight, the ready weapons throw,
Himself at once the quiver, dart, and bow.

The female goes with young about seven months, and produces one or two at a birth, which she suckles about a month. These she defends with the utmost resolution against invaders, and will rather be killed than suffer herself to be deprived of them.—If taken early, it is said, that Porcupines may be easily tamed.

In their stomachs Bezoar stones are frequently found. These are composed of a very fine hair, which has concreted with the juices of the stomach, and have one layer over another, so that they consist of several rings of different colours. Professor Thunberg says, he has seen them as large as a hen's egg, and that they are generally blunt at one end : but one that he saw was as big as a goose's egg, of a brown colour, and perfectly globular.*

The quills are used by the Indians, to adorn many curious articles that they make ; the neatness and elegance of which would not disgrace more enlightened artists. They die them of various beautiful colours, cut them into slips, and embroider

* Thunberg iv. 233.

with them their baskets, belts, &c. in a great variety of ornamental figures.*

The flesh is said to be excellent eating, and is frequently introduced at the politest tables at the Cape.† According to Kolben, it is the better for hanging a day or two in the chimney.

THE CAVY TRIBE.

THESE animals have two wedge-shaped front teeth, and eight grinders; four or five toes on the fore-feet, and from three to five on the hind ones; the tail, either very short, or altogether wanting; and no collar bones. They were arranged by Linnæus along with the *mice*; but that genus having been thought much too extensive, and to comprehend many animals that differed very much from them, both in form and habit, it was at length thought necessary to arrange these under a separate head; distinguishing them by the structure of the feet, the proportion of the limbs, &c. the teeth being nearly the same in all. They seem to hold a middle place between the murine quadrupeds and the Hares.

Nearly all the species of Cavy, which are *seven* in number, have a slow, and some of them a leaping

* Church.

† Vaillant, i. 321.

‡ Linn. Gmel. i. 120.

pace ; they inhabit burrows, which they form beneath the roots of trees, or in the ground. They live entirely on vegetable food, and are all natives of America : two or three of them are, however, found on the old Continent.

THE GUINEA FIG.*

Few of the quadrupeds are more generally known than this. It is a native of Brazil ; but its manners, in a wild state, have not been mentioned by any of the writers, and therefore we must content ourselves with such traits as we are able to draw from it as a domestic animal.

It feeds on bread, grains, fruit, and other vegetable substances, but gives a decided preference to parsley. This little creature is easily rendered tame, and, in this state, it is very cleanly and harmless. In its disposition, it is timid, and appears totally void of attachment, not only to its benefactors, but even to its own young, which it will suffer to be taken away, and even devoured, as soon as they are born, without discovering the least concern, or attempting the slightest resistance.

When kept in a room, it seldom crosses the floor, but generally creeps round by the wall. Its motions are, in a great measure, similar to those of the Rabbet : it strokes its head with its fore feet, and sits on its hind legs, like that animal. The

* SYNONYMS.—*Cavia Cobaya*. *Linn. Gmel.*—*Mus Porcellus*.—*Linn. Syst. Nat. Ed. xii.*—*Cochon d'Inde*. *Buffon.*—*Restless Cavy*. *Penn.*—*Guinea Pig*. *Edwards.*—*Sharw's Gen. Zool. pl. 126.*—*Bérz. Quad. 345.*

male usually obliges the female to go before him, and follows exactly in her footsteps. They are fond of dark and intricate retreats, and seldom venture out when danger is near. When about to quit their hiding places, they spring forward to the entrance, stop to listen and look round ; and if the road is clear, they sally forth in search of food ; but, on the least alarm, run instantly back again.

In their habits, they are so exceedingly clean, that if the young, by any accident, are dirtied, the female takes such a dislike to them, as never again to suffer them to approach her. They may frequently be observed in the act of smoothing and dressing their fur, somewhat in the manner of a Cat. The principal employments of the male and female, seem to consist, in smoothing each other's hair ; which office, being mutually performed, they turn their attention to the young, whose hair they take particular care to keep unruffled and even ; and they bite them, whenever they are in the least refractory.

They repose flat on their belly, but, like the Dog, turn several times round before they lie down. They sleep with their eyes half open, and are very watchful. It is observed, that the male and female seldom sleep at the same time, but seem alternately to watch each other. They are extremely delicate, and impatient of cold or moisture. Their usual voice is a kind of grunting, like a young Pig ; but their notes of pain are shrill and piercing.

Their manner of fighting is very singular, and seems extremely ridiculous. One of them seizes

the neck of its antagonist with its teeth, and attempts to tear the hair from it. In the mean time, the other turns his posteriors to its enemy, kicks up behind like a horse, and, by way of retaliation, scratches the sides of its opponent with its hinder claws, in such a manner that they are frequently both covered with blood.*

The female goes with young about five weeks, and breeds pretty nearly every two months. Though only furnished with two teats, she usually produces three or four, but sometimes so many as twelve young at a birth. And, as the young have been known to breed, when only two months old, the produce of a single pair may amount to upwards of a *thousand* in the year.—In the space of twelve hours after their birth, the young ones are able to run about with as much agility as their parents.

THE BEAVER TRIBE.

OF the present tribe, there are but *two* species that have been hitherto discovered, the common and Chili Beavers; and even of these, there seems some doubt whether the latter ought not to be arranged with the Otters, which only further information on the subject will be able to ascertain.

* Church's Cabinet of Quadrupeds.

The Beavers have the front teeth in their upper-jaw truncated, and excavated with a transverse angle ; and those of the lower jaw are transverse at the tips. The grinders are four on each side. The tail is long, depressed, and scaly : and there are collar bones in the skeleton.*

THE COMMON BEAVER.†

The Beaver is a native of most of the northern parts of Europe and Asia, but is most plentiful in North America. There is some reason to suppose that it has formerly been found in Great Britain ; Giraldus Cambrensis says that these animals frequented the river Tievi in Cardiganshire, and that they had, from the Welsh, a name, signifying “ the Broad-tailed animals.” Their skins were valued by the laws of Howel Dda, in the tenth century, at the great sum of a hundred and twenty pence each ; and they seem to have constituted the chief finery and luxury of those days.

The general length of the Beaver is about three feet. The tail is oval, nearly a foot long, compressed horizontally, but rising into a convexity on its upper surface. It is perfectly destitute of hair, except at the base, and marked out into scaly divisions, like the skin of a fish. The hair is very fine, smooth, glossy, and of a chesnut colour, varying sometimes to black ; and instances have

* Linn. Gmel. i. 124.

† SYNONYMS.—Castor Fiber. *Linn.*—Fiber. *Belon.*—Castor Beaver. *Penn.*—Caster. *Buffon.*—*Shaw's Gen. Zool. pl. 128.*—*Bew. Quad. 383.*

occurred, in which it has been found, white, cream-coloured, or spotted. The ears are short, and almost hidden in the fur.

No other quadrupeds seem to possess so great a degree of natural sagacity as the Beavers, yet when we consider that their history, as hitherto given to mankind, has been principally taken from the reports of the Beaver-hunters, whose object is, not to study the nature or manners of the animals, but merely to seize them as articles of commerce, and whose accounts are often perfectly contradictory, it is necessary that we should not give implicit faith to every thing that has been written even by the most respectable authors concerning them, who have not themselves witnessed their operations.

Captain George Cartwright, who resided above fourteen years on the coast of Labrador, in order to collect the different furs of that dreary climate, saw more of the manners of the Beaver, than nearly all the other writers put together. To his volumes, therefore, and to that of M. Du Pratz, who, in Louisiana, was an eye-witness to their labours, we have principally had recourse, in our endeavours to give to the reader as faithful an account as possible of this wonderful animal.

The front teeth, says Capt. Cartwright, are very strong, and well adapted to the purpose of gnawing wood. They feed on leaves and the bark of trees; and when they eat, they sit upright, and carry the food to their mouth, in the same manner as the Squirrel tribe. The French naturalist, singularly enough asserts, that “the Beaver has a scaly tail,

because he eats fish.” Mr. Cartwright pleasantly observes, “ I wonder M. Buffon has not one himself, for the same reason; for I am sure he has eaten a great deal more fish than all the Beavers in the world put together.” The fact seems to be, that Beavers subsist wholly on vegetable substances, and that they will eat no animal food whatever.*

The Beavers live in general in associated communities, of two or three hundred; inhabiting dwellings, which they raise to the height of six or eight feet above the water. They select, if possible, a large pond, and raise their houses on piles, forming them either of a circular or oval shape, with arched tops, which give them, on the outside, the appearance of a dome, whilst within they somewhat resemble an oven. The number of houses is, in general, from ten to thirty. If they cannot find a pond to their liking, they fix on some flat piece of ground, with a stream running through it. In making this a suitable place for their habitations, a degree of sagacity and intelligence, of intention and memory, is exhibited, nearly equal to that of some part of the human race.

The first object is, to form a dam. To do this, it is necessary that they should stop the stream, and of course that they should know in which direction it runs. This seems a very extraordinary exertion of

* The faculty of medicine at Paris juridically declared the Beaver to be a fish; and as such it was, in consequence, declared lawful to be eaten on *maigre* days. Charlevoix says, it has been placed in the same class with *Mackrel*. Vol. i. 154.

intellect, for they always do it in the most favourable place for their purpose, and never begin at a wrong part. They drive stakes, five or six feet long into the ground, in different rows, and interweave them with branches of trees, filling them up with clay, stones, and sand, which they ram so firmly down, that though the dams are frequently a hundred feet long, Capt. Cartwright says, he has walked over them with the greatest safety. These are ten or twelve feet thick at the base, gradually diminishing towards the top which is seldom more than two or three feet across. They are exactly level from end to end, perpendicular towards the stream, and sloped on the outside, where grass soon grows, and renders the earth more united.

The houses are constructed with the utmost ingenuity, of earth, stones, and sticks, cemented together, and plastered in the inside with the greatest neatness. The walls are about two feet thick, and the floors so much higher than the surface of the water, as always to prevent them from being flooded. Some of the houses have only one floor, whilst others have three.* The number of Beavers in each house is from two to thirty. These sleep on the floor, which is strewn with leaves and moss, and each individual is said to have its own place. When they form a new settlement, they begin to build their houses in the summer, and it costs them a whole season to finish the work, and lay in their winter

* Du Pratz says, that, in one he examined, he found no fewer than fifteen different cells.

provisions, which consist principally of bark and the tender branches of trees, cut into certain lengths, and piled in heaps under the water.*

The houses have each no more than one opening,† which is under the water, and always below the thickness of the ice. By this means they are freed from the effects of frost.

The Beavers seldom quit their residence unless they are disturbed, or their provisions fail. When they have continued in the same place three or four years, they frequently erect a new house every year; or sometimes repair an old one, and live in that. It often happens that they build a new house so close to the old one, that they cut a communication from one to the other: and this may have given rise to the idea of their having several apartments. When their houses are completely finished they still carry on fresh works, nor will they desist even when the pond is frozen over, but continue their employment for some nights after, (if the frost is not too severe,) through a hole in the ice, which they keep open for the purpose.

During the summer they forsake their houses and ramble about from place to place, sleeping under the covert of bushes, near the water-side. On the least noise they betake themselves into the water for security: and they have centinels, who, by a certain cry, give notice of the approach of danger.

* The Indians observe the quantity that the Beavers lay up: it is their guide in judging what will be the mildness or severity of the approaching season.

† Cartwright.

In the winter they never stir out, except to their magazines under the water ; and, during that season, become excessively fat.

In one of his excursions into the Northern parts of Louisiana, M. Du Pratz gives us an account of a colony of Beavers, to many of whose operations he was himself a witness. This seems in a few respects somewhat contradictory to that of Captain Cartwright ; we have therefore no alternative but to give the sense of the writer, and leave the matter undecided.*

At the head of one of the rivers of Louisiana, in a very retired place, M. Du Pratz found a Beaver dam. Not far from it, but hidden from their sight, he and his companions erected their hut, in order to watch the operations at leisure. They waited till the moon shone pretty bright, and carrying branches of trees in their hands to hide themselves behind, they went with great care and silence to the dam. He then ordered one of the men to cut, as silently as possible, a gutter, about a foot wide, through it, and immediately afterwards to run to the hiding place.

“As soon as the water through the gutter began to make a noise, (says our writer), we heard a Beaver come from one of the huts and plunge in. We then saw him get upon the bank, and distinctly perceived that he examined it. He then, with all his force, gave four distinct blows with his tail, and

* Du Pratz was settled sixteen years as a planter in Louisiana, and therefore must have had sufficient means of ascertaining their manners,

immediately the whole colony threw themselves into the water and came upon the dam. When they were all assembled, one of them appeared, by muttering, to issue some kind of orders, for they all instantly left the place, and went out on the banks of the pond in different directions. Those nearest to us were between our station and the dam, and therefore we could observe their operations very plainly. Some of them formed a kind of mortar; others carried this on their tails, which served as sledges for the purpose. I observed that they put themselves two and two, and that each of these loaded the other. They traileed the mortar, which was pretty stiff, quite to the dam, where others were stationed to take it; these put it into the gutter and rammed it down with blows of their tails.

“The noise of the water soon ceased, and the breach was completely repaired. One of the Beavers then struck two blows with his tail, and instantly they all took to the water without any noise, and disappeared.”

M. Du Pratz and his companions afterwards retired to their hut to rest, and did not again disturb these industrious animals till the next day. In the morning, however, they went together to the dam, to see its construction, for which purpose it was necessary that they should cut part of it down. The lowering of the water in consequence of this, together with the noise they made, roused the Beavers again. The animals seemed much disturbed by these operations, and one of them in particular was

observed several times to come pretty near them, as if to examine what passed.—As he apprehended that they might run into the woods, if farther disturbed, he advised his companions that they should again conceal themselves.

“One of the Beavers then ventured, (continues our observer), to go upon the breach, after having several times approached and returned like a spy. He surveyed the place, then struck four blows, as he did the preceding evening, with his tail. One of those that were going to work, passed close by me, and as I wanted a specimen to examine, I shot him. The noise of the gun made them all scamper off with greater speed than a hundred blows of the tail of their overseer could have done.”

By firing at them several times afterwards, they were compelled to run with precipitation into the woods. M. Du Pratz then examined their habitations, &c.

Under one of the houses he found fifteen pieces of wood, with the bark in part gnawed off, apparently intended for food. And round the middle of this house, which formed a passage for them to go in and out at, he found no less than fifteen different cells.—These habitations were made by posts placed slanting upwards to a point, and in the middle was the floor, resting firmly on notches in the posts.*

Notwithstanding all the sagacity, and the exten-

* Du Pratz, 142—147.

sive reasoning faculties of mankind, how often do we see their best-formed plans, their most dear and favorite contrivances fail, from some unlooked for event ! We cannot then surely be surprised, when we are told, as we are by one writer, in order to lessen our opinion of their sagacity, that a community of Beavers has in one or two instances been starved to death, in consequence of a failure of provisions, or some want of foresight in fixing upon a spot that was found not to contain sufficient food to support them : that they have sometimes established their colony in a situation so flat, that a sudden thaw has swelled the water to such a height as to flood the whole place, wash away their food, and thus destroy them. To suppose them capable of judging of probabilities to so great an extent, would be to rank them in intellect with man. We must rather be astonished at the operations that we see them perform, than seek for them any higher situation than that in which they are placed.

They bring forth their young towards the end of June, and generally have two at a time, which are, nine times out of ten, a male and a female. These continue with their parents till they are full three years old ; when they pair off, and form houses for themselves. If however they are undisturbed, and have plenty of provisions, they remain with the old ones, and thus form a double society.*

We cannot wonder that such sociable animals as the Beavers are, should also exhibit great attach-

* Church.

ment to each other. Two young ones that were taken alive, and brought to a neighbouring factory in Hudson's Bay, were preserved for some time, and throve very fast, till one of them was killed by an accident. The survivor instantly felt the loss, and abstained from food till it died.*

Instances have occurred of Beavers having been perfectly domesticated: Major Roderfort, of New York, related to Professor Kalm, that he had a tame Beaver above half a year in his house, where he went about, quite loose, like a Dog. The Major gave him bread, and sometimes *fish*, of which he was very greedy.† As much water was put into a bowl as he wanted. All the rags and soft things he could meet with he dragged into the corner where he was accustomed to sleep, and made a bed of them. The Cat in the house, having kittens, took possession of his bed, and he did not attempt to prevent her. When the Cat went out, the Beaver often took the Kitten that was preserved, between his fore paws, and held it to his breast to warm it, and seemed to doat upon it; as soon as the Cat returned he always gave her the Kitten again. Sometimes he grumbled, but never did any harm, nor attempted to bite.‡

The skin of the Beaver has hair of two kinds: the lower, immediately next to the hide, is short, implicated together, and as fine as down; the up-

* Penn. Arct. Zool. i. 104.

† This is contrary to the assertion of Capt. Cartwright, who says, that they live only on vegetables.

‡ Kalm.

per hair grows more sparingly, and is both thicker and longer than this. The latter is of little value ; but the flix or down is wrought into hats, stockings, caps, and other articles of dress :

The Beaver's flix

Gives kindest warmth to weak enervate limbs,
When the pale blood slow rises through the veins.

The hunters prefer the winter season for seeking out the habitations of the Beavers. They stop up the entrance to these, on the side next the water, with stakes, and enlarge the vent-hole, which they find on the land side ; this is done for the purpose of putting through it a Dog, who is so trained that he holds the Beaver with his teeth, and suffers himself to be drawn out by the hind-legs.* The Indians about Hudson's Bay first drain off the water of the dam, and then covering the houses with nets, break in at the top ; on which the affrighted Beavers running through the door to escape, become entangled in the meshes. The hunters immediately seize and skin them.†

In some parts of Lapland, Beavers are caught in traps made of the twigs of fir-trees. The door to these the hunters fasten with a small branch of poplar, of which these animals are very fond. The Beaver gnaws away this fastening, is let down, and caught. But it is remarked, that wherever two have been together, the one has always set the other at liberty.‡

Beavers skins form a very considerable article of

* Tooke. This account differs from that of Capt. Cartwright, who says they have only one hole, and that from the water.

† Ellis, 161.

‡ Scheffer, 236.

commerce, both with the northern countries of Europe and with America. Above fifty-four thousand have been sold by the Hudson's Bay Company at one sale. Those of a black colour are preferred, and such as are taken during winter, especially if they have been worn for some time by the Indians, by which the long hairs fall off, leaving the fine downy fur perfectly free, and better fitted for every purpose of manufacture.* A good skin will weigh about two pounds.

The medicinal substance, called *castor*, is produced in the inguinal glands of these animals; and each individual, both male and female, has usually about two ounces. That produced by the Russian Beavers is more valuable, and sells at a much higher price than what is imported from America.†

The flesh is good eating. It is usually preserved, (the bones being first taken out) by drying it in the smoke.

It frequently happens that single Beavers live by themselves in holes, which they make in the banks of rivers, considerably under the surface of the water, working their way upward to the height of many feet. These are called by the hunters *Hermits* or *Terriers*. Like the rest, they lay up a store of provisions for the winter. It is supposed by Capt. Cartwright, that their separation from society originates in attachment and fidelity; that, having, by

* These skins are called *green Beavers*: the others *dry Beavers*.

† Kerr, i. 224.

some accident, lost their mate, they will not readily pair again. Whatever may have been the cause, it has been remarked, that they have invariably a black mark on the skin of their backs, which is called a saddle, and by which they are easily distinguished from the others.

Their motions on land are very slow ; and, being timid animals, they are easily killed, though possessing teeth so sharp and strong as to enable them to make a stout resistance. If they happen to be met on shore by a man, they sit down on their bottom, and cry like a child.*

THE RAT TRIBE.

THIS genus contains all those animals which go under the denomination of Murine Quadrupeds ; and, although the word Rat has been adopted, the tribe contains not only those species that we know by the name of Rats, but also the Mice, and others called Beaver-rats.

These, in general, live in holes in the ground, are very swift, and able to climb trees. Their food is chiefly vegetable, which most of them seek in the night, keeping in their retreats during the day. They feed in a somewhat upright position, carrying

* Church.

the food to their mouth in their fore-paws. They are very prolific. Our books contain accounts of *forty-five* species.

The front-teeth are wedge-shaped: the grinders on each side are generally three, but sometimes only two: and they have clavicles, or collar-bones.*

THE MUSK RAT.†

This animal is about the size of a small Rabbet: its head is thick and short, and somewhat resembles that of the Water-rat. The eyes are large; the ears short, rounded, and covered both inside and out with hair. Its fur is soft, glossy, and of a reddish-brown colour, and beneath this is a fine fur, or thick down, which is very useful in the manufacture of hats. The tail is flattened laterally, and covered with scales.

The Musk-rat is found in America, from Hudson's Bay as far south as Carolina.

In the general form of their body, as well as in many of their habits, these animals bear a considerable resemblance to the Beaver. They construct their habitation of dry plants, but particularly of reeds, cement it with clay, and cover it with a dome. At the bottom and sides of this are several pipes, through which they pass in search of food;

* Linn. Gmel. i. 125.

† SYNONYMS.—Mus Zibethicus. Linn. Gmel.—Castor Zibethicus. Linn. Ed. xii.—Ondatra, or Canadian Musk-rat. Sm. Buff.—Musk-beaver. Penn.—Musquash. Kerr.—Musk-rat. La Hontan.—Sbarw's Gen. Zool. pl. 129.—Berw. Quad. 381.

for they lay up no provisions for winter. They have also subterraneous passages, into which they retreat whenever their houses are attacked.

Their habitations, which are intended only for the winter, are every year rebuilt. At the approach of this season they begin to form them, as places of retirement from the inclemencies of the weather. Several families occupy the same dwelling, which is frequently covered many feet deep with snow and ice; they, notwithstanding, manage to creep out, and feed on the roots that are also buried beneath. They feed likewise on the fresh-water muscles, and when the season permits it, on fruit. Kalm, in his American travels, says that apples are used as baits for them in traps. In winter, the male and female are seldom seen far from each other.*

During the summer they wander about, generally in pairs, feeding voraciously on herbs and roots. They walk and run in an awkward manner like the Beaver, and cannot swim well, from their feet being unfurnished with webs.†

They, as well as the Beaver, seem to have their Drones or Terriers, which are at no trouble in the common service of building houses. These burrow like Water-rats, in banks adjacent to lakes, rivers, and ditches, and often do much damage by admitting the water through the embankments of meadows.

They are remarkable for a strong musky smell, from whence they had their name of Musk-rat.

* Penn. Arct. Zool. i. 107.

† Shaw, ii.

Their nests are formed of sticks, lined within with some soft materials ; and they bring forth from three to six young ones at a time. When taken young they are easily tamed ; they are then very playful and inoffensive, and never bite.

The flesh is sometimes eaten ; and the fur is used in the manufacture of hats.*

THE BROWN RAT.†

This and the Black Rat are species much too well-known in most countries where they are found at all. This, however, which was first introduced into our country from Norway, has greatly diminished the number of the others, but has itself multiplied so excessively, and is so very strong and voracious, as to form no agreeable substitute.

In Ireland they have even very nearly destroyed the whole race of Frogs, which the inhabitants were somewhat anxious to preserve, in order to clear their fields of insects, and render their waters more healthful. While these continued in considerable numbers, the Rats also multiplied, but since they are deprived of this considerable part of their subsistence, they are also become much less numerous themselves.‡

During summer they reside chiefly in holes of the banks of rivers, ditches, and ponds ; but on

* Penn. Arct. Zool. i. 107. See also Charlevoix Amer. i. 168.

† SYNONYMS.—*Mus decumanus*. Linn.—*Bandicote*. Purchas.—*Surmulot*. Buffon.—*Norway Rat*. *Brown Rat*. Penn.—*Shaw's Gen. Zool.* pl. 130.—*Bew. Quad.* 377.

‡ Goldsmith, iv. 63.

the approach of winter they come to the farm houses, and enter the corn-ricks and barns, where they devour much of the corn, but damage infinitely more than they eat. They have also haunts in the walls and about the floors of old houses, where they frequently destroy the furniture; and they have even been known to gnaw the extremities of infants while asleep. They are also excessively destructive to eggs, Poultry, Pigeons, Rabbits, and game of every description. They swim with ease, and even dive after fish.

Their produce is enormous, as they bring from ten to twenty at a litter, and this thrice a year. Thus, their astonishing increase is such, that it is possible for the produce of a single pair, supposing food to be sufficiently plentiful, and that they had no enemies to lessen their numbers, to amount at the end of about two years, to upwards of a *million*. But this destructive increase is counteracted, not only by numerous enemies among the other animals, but by their destroying and eating each other. A large and strong Rat is as much dreaded by its own species, as other creatures, that are their prey, dread their whole race. Thus has Providence kindly interfered in keeping them within due bounds.

Dogs and Cats destroy, but do not eat them. The Weasel is in perpetual enmity with them, will pursue them into their holes, and fight with them there. This little creature endeavours to fix itself on their bodies, and suck their blood, which it very often effects. They are, however, so bold as to attack a small Dog, seize him by the mouth, and

holding fast there, they make a wound, from its deepness and laceration, very difficult to be healed.

In the Isle of France, Rats are found in such prodigious swarms, that it is said the place was entirely abandoned by the Dutch on account of their number. In some of the houses they are so numerous that 30,000 have been known to be killed in a year. They make immense hoards under ground, both of corn and fruit, and climb up the trees to devour the young birds. They pierce the very thickest rafters. At sun-set they may be seen running about in all directions, and in a single night they will frequently destroy a whole crop of corn. M. de Saint Pierre says he has seen a field of maize, in which they had not left a single ear. They are supposed to have been originally brought to the island in some of the European vessels.

On the return of the *Valiant*, man of war, from the Havannah, in the year 1766, the Rats had increased to such a degree, that they destroyed a hundred weight of biscuit a day. The ship was at length smoked between decks, in order to suffocate them, which had the desired effect, and six hampers were, for some time, filled every day, with the Rats that had been thus killed.*

The following anecdote of a whimsical mode of clearing a house of these troublesome animals, may be new to many of our readers :

A gentleman travelling through Mecklenburg about thirty years ago, was witness to a very sin-

* St. Pierre's *Voyage to the Isle of France*, p. 76. and note.

gular circumstance in the post-house at New Hargard. After dinner the landlord placed on the floor a large dish of soup, and gave a loud whistle. Immediately there came into the room a Mastiff, a fine Angora Cat, an old Raven, and a remarkably large Rat, with a bell about its neck. The four animals went to the dish, and, without disturbing each other, fed together; after which the Dog, Cat, and Rat, lay before the fire, while the Raven hopped about the room. The landlord, after accounting for the familiarity which existed among the animals, informed his guest that the Rat was the most useful of the four, for the noise he made had completely freed the house from the Rats and Mice with which it was before infested.

Pontoppidan says, that a short time previous to a fire all the Rats and Mice that are in a house will instinctively forsake it!

Some of the Japanese tame these Rats, and teach them to perform many entertaining tricks; and, thus instructed, they are exhibited as a show for the diversion of the common people.*

In Egypt, as soon as the Nile, after having fertilized the land, leaves it free for cultivation, multitudes of Rats and Mice are seen to issue in succession from the moistened soil. The Egyptians from hence believe that they are generated from the earth itself. Some of them even roundly assert, and maintain with the utmost effrontery, that they have seen them in their formation, one half of the bodies flesh, and the other half mud.†

* Kaempfer, i. 126.

† Sonnini, iii. 66.

Rats swarm in Otaheite, where they feed on the fruits of the country; and they are there so bold, as even sometimes to attack the natives when asleep. The inhabitants hold them in abhorrence as unclean, and will even avoid killing them, lest they should be polluted by the touch.*

THE FIELD MOUSE.†

The Field Mouse is well known in all the temperate parts of Europe, where it frequents dry and elevated fields or woods. It is generally about four inches and a half long to the tail, which is near four inches more. Its colour is yellowish brown above, and whitish on the under parts. The eyes are full and black.

These animals are found only in fields and gardens. They live in burrows, a foot or more underground, where they lay up great quantities of acorns, nuts, and beech-mast. According to Buffon, a whole bushel has been sometimes found in a single hole. These habitations are often divided into two apartments, the one for living in with their young, and the other for their provisions.

Often the little Mouse

Illudes our hopes; and safely lodg'd below

Hath formed his granaries.

The nests of these little creatures may be dis-

* Penn. Quad. ii. 438.

† SYNONYMS.—*Mus Sylvaticus*. Linn.—Wood Mouse. *Shaw*.—Long-tailed Field Mouse. *Sm. Buff.*—Bean Mouse, in some parts of England.—*Mulot. Buffon*.—Field Mouse. *Penn.*—*Shaw's Gen. Zool. pl. 132.*—*Erw. Quad. 388.*

covered by the small heaps of mould thrown up at the entrance of their runs, which lead by winding paths to the reservoir.*

A most remarkable instance of sagacity in this animal occurred to the Rev. Mr. White one day as his people were pulling off the lining of an hot bed, in order to add some fresh dung. From out of the side of this bed, leaped an animal with great agility, that made a most grotesque figure, and was not without great difficulty taken; when it proved to be a large Field Mouse with three or four young clinging to her teats by their mouths and feet. It was amazing that the desultory and rapid motions of this dam did not oblige her litter to quit their hold, especially when it appeared that they were so young as to be both naked and blind.†

They are very prolific, breeding more than once a year, and often producing litters of eight or ten at a time. They generally make the nest for their young very near the surface of the ground, and often in a thick tuft of grass.

THE HARVEST MOUSE.‡

The Rev. Gilbert White seems to have been the first who examined this diminutive and slender species of Mouse, which hitherto appears to have been only found in Hampshire. It is, he says, somewhat of a Squirrel colour, with a white belly,

* Trans. of Bath Soc. vol. vi.

† White's Selborne.

‡ SYNONYMS.—*Mus Messorius*, Ker. *Shaw*.—Less Long-tailed Field Mouse. Harvest Mouse, Penn.

having a straight line along the sides, dividing the shades of the back and belly.

One of the nests of these little animals he procured, which was most artificially platted, and composed of the blades of wheat; perfectly round, and about the size of a cricket-ball; with the aperture so ingeniously closed, that there was no discovering to what part it belonged. It was so compact and well filled, that it would roll across the table without being discomposed, though it contained eight little Mice that were naked and blind. As this nest was perfectly full, how could the dam come at her litter respectively so as to administer a teat to each? Perhaps she opens the different places for that purpose, adjusting them again when the business is over: but she could not possibly be contained herself in the ball with her young, which moreover, would be daily increasing in bulk. This wonderful procreant cradle, an elegant instance of the efforts of instinct, was found in a wheat-field, suspended in the head of a thistle.

Mr. White remarked that though they hang their nests above the ground; yet in winter they burrow deep in the earth, and make warm beds of grass: but their grand rendezvous seems to be in corn-ricks, into which they are carried at harvest.— This gentleman measured some of them, and found that from nose to tail they were two inches and a quarter, and that their tails were two inches long. Two of them in a scale weighed down just one copper halfpenny, about the third of an ounce avoirdupois: so that he supposes them to be the smallest

quadrupeds in this island. A full grown domestic Mouse would weigh at least six times as much as one of these.*

THE LEMMING RAT.†

The Lemmings are inhabitants of the mountains of Norway and Lapland. They vary much both in size and colour: those of Norway are almost as large as a Water Rat, while those of Lapland are scarcely as big as a Mouse. The former are elegantly variegated with black and tawny in the upper parts; the sides of the head and the under parts being white. The legs and tail are greyish; and the under parts of the body of a dull white. The head of the Lemming is large, short, and thick: the eyes small: neck short: body thick: and the limbs stout and strong. The tail is very short and thick.

They feed entirely on vegetables. In summer they form shallow burrows under the surface of the ground, and in winter they make long passages under the snow in search of food; for as they lay up no winter store, they are reduced to the necessity of hunting for it during all the rigours of the cold season.

They seem to be endowed with a power of foretelling the severity of approaching weather; for before the setting in of a cold winter they leave

* White's Selborne.

† SYNONYMS.—*Mus Lemmus*. *Linn.*—*Lemmus Rat.* *Lapland Marmot.* *Penn.*—*Leming.* *Buff.*—*Lemming.* *Pentoppidan,*—*Sharw's Gen. Zool pl.* 135.—*Bew. Quad.* 375.

their haunts in the above countries, and emigrate in immense multitudes southwards towards Sweden, always endeavouring to keep a direct line. These emigrations take place at uncertain intervals, though generally about once every ten years : and exposed as they are to attack, they of course become the food of all the predacious animals. Multitudes also are destroyed in endeavouring to swim over the rivers or lakes. From these different causes very few of them live to return to their native mountains, and thus a check is put to their ravages, as it takes several years to repair their numbers sufficiently for another invasion. They are bold and fierce, so as even to attack men and animals, if they meet them in their course ; and they bite so hard, as to allow themselves to be carried to a considerable distance, hanging by their teeth, before they will quit their hold.*

If they are disturbed or pursued, while swimming over a lake, and their phalanx is separated by oars or poles, they will not recede, but keep swimming directly on, and soon get into regular order again. They have sometimes been known even to endeavour to board or pass over a vessel. This army of mice moves chiefly by night, or early in the morning, and makes such destruction among the herbage, that the surface of the ground, over which they have passed, appears as if it had been burned. Their numbers are at times so great, that the common people of Norway believe them to descend

* Pontoppidan, part ii. 31. Scheffer, 340.

from the clouds; * and the multitudes that are sometimes found dead on the banks of rivers, or other places, infect by their stench the whole atmosphere around, and thus produce many diseases. They are even thought to infect the plants which they gnaw; for when cattle are turned into pastures where they have been, they are said frequently to die in consequence.†

They never enter dwellings, of any description, to do mischief, but always keep in the open air. When enraged, they raise themselves on their hind-feet, and bark like little dogs. Sometimes they divide into two parties, attack each other, and fight like two armies. From these battles, the superstitious of the inhabitants of Sweden and Lapland, pretend not only to foretell wars, but also their success, according to the quarters the animals come from, and the side that is defeated. ‡

* Pontoppidan, ii. 32. The following is the form of the exorcism, that the Romish Clergy adopted, to banish these and other plagues from the countries infested by them:—Exorcismus. Exorcizo vos pestiferos vermes, mures, aves seu locustas, aut animalia alia per Deum Patrem + Omnipotentum, et Jesum + Christum filium ejus, et Spiritum + Sanctum ab utroque procedentem, aut confestim recedatis ab his campis, seu vineis, vel aquis, nec amplius in eis habitetis, sed ad ea loca transeatis, in quibus nemini nocere possitis, et ex parte omnipotentis Dei, et totius curiæ coelestis, et Ecclesiæ sanctæ Dei, vos maledicens quocunque ieritis, sitis maledicti, deficientes de die in diem in vos ipsos, et descrescentes quatenus reliquiæ de vobis nullo in loco inveniuntur; nisi necessariae ad salutem et usum humanum, quod præstare dignetur ille, qui venturus est judicare vivos et mortuos et seculum per ignem. Amen."

† Buff. Quad. vii. 320.

‡ Scheffer, 340.

They breed several times in the year, and produce five or six at once. It has been observed, that the females have sometimes brought forth, during their migrations; and they have been seen carrying some their young in their mouths, and others on their backs.

Their flesh is not used as food. The hair is very fine, but too thick to be of use as a fur.

THE ECONOMIC RAT.*

The length of the Economic Rat is about four inches, and that of the tail one inch. The limbs are strong; eyes small; ears short, naked, and almost hidden beneath the fur of the head. The general colour is tawny, somewhat whiter beneath than on the back.

These creatures inhabit Siberia and Kamtschatka, in vast abundance, and make their burrows, with the utmost skill, immediately below the surface of a soft turfy soil. They form a low chamber, of a flattish arched form, about a foot in diameter, to which they sometimes add as many as thirty small passages or entrances. Near the chamber they often form other caverns, in which they lodge their winter stores. These consist of plants, which they gather in summer harvest and bring home; and even, at times, they bring them out of their cells to give them a more thorough drying in the sun. The chief labour is performed by the females.†

* SYNONYMS.—*Mus Æconomicus*. *Linn.*—Economic Mouse. *Penn.*—Tegoulitchek. *Grieve.*—*Shaw's Gen. Zool.* pl. 134.

† *Grieve*, 105.

They associate in pairs; and, except during the summer, when the male leads a solitary life in the woods, the male and female are generally both to be found in the same nest.

The migrations of these animals are not less extraordinary than those of the Lemming. Both Dr. Grieve and Mr. Pennant, have mentioned those of the Kamtschatka Economic Rats, but neither of them attempt to explain the cause. In the spring, says the former writer, they collect together in amazing numbers, and proceed in a direct course westward, swimming with the utmost intrepidity over rivers, lakes, and even arms of the sea. Many are drowned, and many destroyed by water-fowl or rapacious fish. Those that escape, on emerging from the water, rest awhile to bask, dry their fur and refresh themselves. The Kamtschadales, who have a kind of superstitious veneration for this little animal, whenever they find any of them thrown upon the banks of the rivers, weak and exhausted, render them every possible assistance. As soon as they have crossed the river Penschinska, at the head of the gulph of the same name, they turn in a south-westerly direction, and, about the middle of July, generally reach the rivers Ochotska and Judoma; a distance of above a thousand miles. The flocks are also so numerous, that travellers have sometimes waited above two hours for them to pass. The retirement of these animals is very alarming to the Kamtschadales; but their return, which is generally in October, is attended with the utmost joy

and festivity, as they always consider a successful chase and fishery, the certain consequence.*

The Kamtschadales never destroy the hoards of these animals: they sometimes take away part of their store; but, in return for this, they invariably leave either some Caviare, or other food, to support them in its stead.†

The manner in which the Economic Rats, in their foraging excursions, cross the rivers of Iceland, is thus related by Mr. Olaffen.

“The party, consisting of from six to ten, select a flat piece of dried cow-dung, on which they place the berries they have collected, in a heap in the middle: then, by their united force, drawing it to the water’s edge, they launch it, and embark, placing themselves round the heap, with their heads joined over it, and their backs to the water, their tails pendent in the stream, and serving the purpose of rudders.”‡

THE HAMSTER. §

The Hamster is about the size of the Brown or Norway Rat, but much thicker, and its tail only about three inches long. Its colour is reddish brown above, and black beneath; but, on each side of the body, are three large oval white spots. The

* Grieve, 105. Penn. Arct. Zool. i. 134.

† Kerr. i. 238.

‡ Shaw, ii.

§ SYNONYMS.—*Mus Cricetus*. Linn.—German Marmot. Hamster Ket. Penn.—German Hamster. Kerr.—Hamster. Buffon.—Shaw’s Gen. Zool. pl. 137—Bew. Quad. 370.

ears are rather large. On each side of the mouth are two receptacles for food, which, when empty, are so far contracted, as not to appear externally ; but when filled, they resemble a pair of tumid bladders, with a smooth veiny surface, which is concealed by the fur of the cheeks.

These, the only species of the pouched Rats found in Europe, are inhabitants of Austria, Silesia, and many parts of Germany. They live underground, burrowing down obliquely. At the end of their passage, the male sinks one perpendicular hole, and the female several, sometimes seven or eight. At the end of these are formed various vaults, either as lodges for themselves and young, or as store-houses for their food. Each young has its different apartment ; and each sort of grain its different vault : the former they line with straw or grass. The vaults are of different depths, according to the age of the animals : a young Hamster makes them scarcely a foot deep ; an old one sinks them to the depth of four or five. The whole diameter of the habitation, with all its communications, is sometimes eight or ten feet.

The male and female have always separate burrows ; for, except in their short season of courtship, they have no intercourse. The whole race is so malevolent, as constantly to reject all society with one another. They will fight, kill, and devour each other. The female shews little affection even for her young ; for if any person digs into the hole, she attempts to save herself by burrowing

deeper into the earth, leaving them a prey to the intruder. They would willingly follow her, but she is deaf to their cries, and even shuts up against them the hole which she has made.*

The Hamsters feed on grain, herbs, and roots, and, at times, even eat flesh. Their pace is extremely slow; but, in burrowing in the ground, they exhibit great agility. Not being formed for long journies, their magazines are first stocked with such provisions as are nearest to their abode, which accounts for some of their chambers being filled with only one species of grain. After the harvest is reaped, they, from compulsion, go to greater distances, in search of provisions, and carry to their storehouse whatever eatables they can lay hold of.

To facilitate the transportation of food to their hoards, Nature has furnished them with the pouches in their cheeks.—These, in the inside, are furnished with many glands, which secrete a certain fluid, that preserves the flexibility of the parts. They are each capable of containing about two ounces of grain, which the animal empties into its granary, by pressing its two fore-feet against its cheeks.—When their cheeks are full, they may easily be caught with the hand, without the risk of being bitten, as they have not, in this condition, the free motion of their jaws. If, however, a little time is allowed, they soon empty their pouches, and stand on their defence.

On dissecting one of these animals, Dr. Russel

* Penn. Quad. ii. 462.

found the pouch, on each side of its mouth, stuffed with young French beans, arranged lengthways, so exactly and close to each other, that it appeared strange by what mechanism it had been effected; for the membrane, which forms the pouch, though muscular, is extremely thin, and the most expert fingers could not have packed the beans in more regular order. When they were laid loosely on the table, they formed a heap three times the bulk of the animal's body.*

What these creatures lay up, is not for their winter's support, as, during that season, they always sleep, but for their nourishment, previous to the commencement, and after the conclusion of their state of torpidity. The quantity in the burrows depends upon the size and sex of the inhabitants, the old ones frequently amassing upwards of a hundred weight of grain, but the young and the females providing a quantity much smaller.

At the commencement of the cold season, the Hamsters retire into their hiding places, the entrances to which they close up. Here they repose for some months, and, in this state, they are often dug up by the peasantry, who, at this season of the year, employ much of their time in hunting for these retreats. They are easily known by the small mounds of earth, raised at the end of the galleries. In these places the men dig till the hoard is discovered, which often consists of a bushel, or a bushel and a half of corn; and they are farther rewarded by the skins of the animals, which are esteemed valuable furs.

* Russel's Aleppo.

In some seasons, the Hamsters are so numerous, that they occasion a dearth of corn. In one year, about 11,000 skins; in a second 54,000; and in a third year 80,000, were brought to the Town-house of Gotha, to receive a reward for their destruction.

The Hamster sleeps during the winter; and though neither respiration nor any kind of feeling can be perceived, yet the heart has been discovered (by opening the chest) to beat fifteen times in a minute. The blood continues fluid, but the intestines are not irritable, and, in the open air, he does not become torpid. When found in a state of torpidity, his head is bent under his belly, between the two fore-legs, and the hind-legs rest upon his muzzle. The eyes are closed, and when the eye-lids are forced open, they instantly shut again. The members are all stiff, and the body feels as cold as ice: and if he is even dissected in this state, his lethargy is too strong to admit of his waking entirely.

The lethargy of the Hamster has been ascribed solely to a certain degree of cold; but experience has proved, that, to render the Hamster torpid, he must also be excluded from all communication with the external air: for when one of them is shut up in a cage, filled with earth and straw, and exposed in winter to a degree of cold, even sufficient to freeze water, he never becomes torpid. But, when the cage is sunk four or five feet underground, and well secured against the access of air, at the end of eight or ten days, he is as torpid as if he had been in his own burrow. If the cage is brought up to the surface, the Hamster will awake

in a few hours, and he resumes his torpid state when put below the earth again.

When the animal is passing from a state of torpidity, his actions are very singular : he first loses the rigidity of his members, and then makes profound respirations, but at long intervals. His legs begin to move, he opens his mouth, and utters disagreeable and rattling sounds. After continuing these operations for some time, he opens his eyes, and endeavours to raise himself on his legs. But all these movements are still reeling and unsteady, like those of a man intoxicated with liquor ; he, however, reiterates his efforts, till he is at length enabled to stand on his legs. In this attitude, he remains fixed, as if he meant to reconnoitre, and repose himself after his fatigue. But he gradually begins to walk, to eat, and to act in his usual manner. This passage, from a torpid to an active state, requires more or less time, according to the temperature of the air. When exposed to a cold air, he sometimes requires more than two hours to awake ; and, in a more temperate air, he accomplishes his purpose in less than one.

The life of a Hamster is divided between eating and fighting. He seems to have no other passion than that of rage, which induces him to attack every animal that comes in his way, without in the least attending to the superior strength of the enemy. Ignorant of the art of saving himself by flight, rather than yield, he will allow himself to be beaten to pieces with a stick. If he seizes a man's hand, he must be killed before he quits his hold. The mag-

nitude of the horse terrifies him as little as the address of the dog, which last is fond of hunting him. When the Hamster perceives a Dog at a distance, he begins by emptying his cheek-pouches, if they happen to be filled with grain: he then blows them up so prodigiously, that the size of the head and neck greatly exceeds that of the rest of the body: he raises himself on his hind legs, and thus darts upon the enemy. If he catches hold, he never quits it, but with the loss of his life. But the Dog generally seizes him behind, and strangles him. This ferocious disposition prevents the Hamster from being at peace with any animal whatever. He even makes war against his own species, not excepting the females. When two Hamsters meet, they never fail to attack each other, and the stronger always devours the weaker. A combat between a male and a female commonly lasts longer than that between two males. They begin by pursuing and biting each other; then each of them retires to a side, as if to take breath: a little after they renew the combat, and continue to fly and to fight, till one of them falls. The vanquished uniformly serves for a repast to the conqueror.*

The females bring forth twice or thrice a year; each litter consisting of six or eight young; and their increase in some years is so rapid, as almost to be sufficient to occasion a dearth. In about three weeks after their birth, the young are so strong as to be able to seek their own provisions, which the dam

* Buff. Quad. viii. 194.—197.

obliges them to do ; and, in fifteen or sixteen days, they begin to dig the earth.

THE MARMOT TRIBE.

THE Marmots have two wedge-shaped front teeth in each jaw, and five grinders on each side in the upper, and four in the lower jaw. They have also collar bones in the skeleton.*

This genus, of which only *eight* species are yet known, does not differ in many particulars from that of the Rats. The animals have thick cylindrical bodies, and large, roundish heads. The fore-feet have four claws, and a very small thumb ; and the hind feet five claws. They reside in subterraneous holes, and pass the winter in sleep.

THE ALPINE MARMOT.†

The Alpine Marmot frequents the highest summits of the Alps and Pyrenean Mountains, and is also found in some parts of Asia. It is about sixteen inches in length, has a short tail, and bears some resemblance both to the Rat and the Bear. The colour is brownish above, and bright tawny on the under parts. The head is rather large and flat-

* Linn. Gmel. i, 141.

† SYNONYMS.—*Arctomys Marmota*. Linn. Gmel.—*Mus Marmota*. Linn. Syst. Nat. Ed. xii.—Common Marmot. Kerr.—*Marmotte*. Buffon.—Alpine Marmot. Penn.—*Sharw's Gen. Zool.* pl. 143.—*Beuv. Quad.* 366.

tish; the ears short and hid in the fur; and the tail thick and bushy. These singular quadrupeds delight in the regions of frost and of snow, and are seldom to be found but on the tops of the highest mountains. They remain in a torpid state during winter. About the end of September, or the beginning of October, they retire into their holes, and never come abroad again till the beginning of April. Their retreats are formed with much art and precaution. They do not make a single hole, or a straight or winding tube, but a kind of gallery in the form of a Y, each branch of which has an aperture, and both terminate in a capacious apartment, where several of the animals lodge together. As the whole operation is performed on the declivity of a mountain, the innermost aperture is alone horizontal. Both branches of the Y are inclined, one of them descends under the apartment, and follows the declivity of the mountain. This is a kind of aqueduct, and also receives and carries off all the filth that is produced within: and the other, which rises above the principal apartment, is used for coming in and going out at. The place of their abode is well lined with moss and hay, of which they lay up great store during the summer.

It is affirmed, that this labour is carried on jointly; that some of the animals cut the finest herbage, which is collected by others, and that they alternately serve as vehicles for transporting it to their dens. One, it is said, lies down on his back, allows himself to be loaded with hay, extends his limbs, and others trail

him, thus loaded, by the tail; taking care not to upset him. "I have often (says M. Beauplau) seen them practise this, and have had the curiosity to watch them at the work for whole days together." The repeated frictions arising from this work are assigned as the reason why the hair is generally rubbed off from their backs. But it is more probable that this effect is produced by their frequent digging of the earth, which alone is sufficient to peel off the hair. However this may be, it is certain that they dwell together, and work in common in their habitations, where they pass three fourths of their lives. Thither they retire during rain, or upon the approach of danger, and never go out but in fine weather, and even then to no great distance.

One of them stands sentinel upon a rock, while the others gambol upon the grass, or are employed in cutting it in order to make hay. If the sentinel perceives a Man, an Eagle, a Dog, or other dangerous animal, he instantly alarms his companions by a loud whistle, and is himself the last that enters the hole.*

As they continue torpid during the winter, and, as if they foresaw that they would then have no occasion for food, they lay up no provisions in their apartments. But, when they feel the first approaches of the sleeping season, they shut up both the pas-

* Beauplau's description of Ukraine.—This writer seems either to have mistaken the Marmot for the following species, or to have confounded the two. The animals he describes, he calls Bobaques.

sages to their habitation; and this operation they perform with such labour and solidity, that it is more easy to dig the earth any where else than in the parts they have thus fortified. At this time they are very fat, weighing sometimes twenty pounds. They continue to be plump for three months; but afterwards gradually decline, and at the end of winter, are extremely emaciated. When seized in their winter retreats, they appear rolled up in the form of a ball, and covered with hay. In this state they are so torpid, that they may be killed without seeming to feel the smallest pain. Like the Dormice, and all other animals which sleep during the winter, the Marmots are revived by a gradual and gentle heat. And those that are fed in houses, and kept warm, never become torpid, but are equally active and lively through the whole year.

In their wild state, the old Marmots, at break of day, come out of their holes and feed; afterwards they bring out their young ones. The latter scamper on all sides, chace each other, sit on their hind-feet, and remain in that posture, facing towards the sun, with an air expressive of satisfaction. They are all particularly fond of warmth, and when they think themselves secure, will bask in the sun for several hours. Before they collect the grass, either for their food, or for their winter habitations, they form themselves into a circle, sitting on their hind-legs, and reconnoitre on all sides. On the least alarm given, they immediately hasten to their hiding places.

In the countries where the rhubarb* grows, it is said that they generally get near those plants; for wherever ten or twenty of these are found near each other, there are always several burrows of the Marmots under the shade of their broad leaves. It is probable, that their manure about the root contributes, in a considerable degree, towards the increase of the plants, and that their casting up of the earth causes the young shoots to come forth more freely. The Mongols take very little care in the cultivation of rhubarb, therefore the world seems, in a great measure indebted to the Marmots for this useful root. Wherever the seed becomes scattered among grass it is generally lost, from not reaching the ground, but whenever it is thrown among the loose earth, cast up by these little animals, it immediately takes root, and produces a new plant.†

The Marmot has a quick eye, and discovers an enemy at a considerable distance. He never does the least injury to any other animal, and flies when he is pursued. In fact, when apprehensive of being followed, whole families quit their dwellings, and wander from mountain to mountain, although they have in consequence new habitations to construct. But, when flight is impossible, they defend themselves with spirit against even Men and Dogs, and attack all those who approach them with both their teeth and claws.

When taken young the Marmot is easily do-

* *Rheum Palmatum*, of Linnæus.

† Bell, i. 338.

mesticated. It will walk on its hind-feet, sit upright, and carry food to its mouth with its fore-feet : it will dance with a stick between its paws, and perform various tricks to please its master.—It has a singular antipathy to Dogs, and will stand an attack from even the most formidable of them. Though but small, it is extremely stout, and, in addition to this, peculiarly dexterous ; but though able to bite most cruelly, yet it attacks no one unless previously irritated.

When they are on the ground, these creatures may be caught without difficulty ; but, except when torpid, they are not so easily taken in their holes, as they dig very deep when in danger.—In winter they are taken in great numbers, both on account of their flesh, which is very tender and delicate, and on account of their skins. Their fat is esteemed medicinal by the inhabitants of the Alps.

THE BOBAC.*

The Bobac is about the size of the Alpine Marmot : its colour is grey above, and beneath fulvous or ferruginous. The tail is short, somewhat slender, and very hairy. It is a native of Poland, Russia, and other mountainous parts of Europe.

They burrow obliquely in the ground to the depth of two, three, or four yards ; and form numbers of galleries with one common entrance from the

* SYNONYMS.—*Arctomys Bobac*. *Linn. Gmel.*—*Bobak*. *Bulfen.*—*Shaw's Gen. Zool. pl. 144.*

surface ; each gallery ending in the nest of the inhabitant. Sometimes, however, the burrows consist of but one passage. Though these are found in the greatest numbers where the earth is lightest, yet they are very common even in the rocky strata of the mountains. In very hard and rocky places, from twenty to forty of these animals join together to facilitate the work ; and they live in society, each with its nest at the end of its respective gallery.—To every nest they collect (especially towards autumn) the finest hay they can procure, and in such plenty, that sufficient is often found in one of them for a night's food for a Horse.

During the middle, or sunny part of the day, they sport about the entrance of their holes, but seldom go far from them. On the sight of man they retire with a slow pace, and sit upright near the mouth, giving a frequent whistle, and listening to the approach. In places where they live in large families; they always place a centinel to give notice of any danger, during the time the rest are feeding.*

They are mild, good-natured, and timid ; and feed only on vegetables, which they go in search of in the morning, and about the middle of the day. They sit on their hams when they eat, and carry their food to the mouth with their fore-paws ; and in this posture it is that they defend themselves when attacked. When they are irritated, or when any one attempts to lay hold of

* Penn. Quad. ii. 4co.

them, they bite desperately, and utter a very shrill cry

In summer they eat voraciously, but remain torpid all winter, except when kept in very warm places, and they even then eat but little, and will, if possible, escape into some proper place for hybernating; but they return to their master in the spring. They very soon become tame, even when taken of full age, but the young ones are familiar from the moment they are caught.

The flesh is eatable; and, except that it is somewhat rank, resembles that of the Hare. The fat is used for dressing leather and furs; and the skins are employed by the Russians for cloathing.

The female brings forth early in spring, and usually six or eight young ones at a litter.

THE SQUIRRELS.

THE Squirrels are for the most part light, nimble, and elegant animals, climbing trees with the utmost agility, and springing with astonishing security from one branch to another. Some of them are provided with hairy membranes, extending from the fore to the hind-legs, which, when spread out, by rendering them more buoyant, enable them to leap considerable distances from tree to tree. Some of the species form their nests, and live almost

entirely in the trees, whilst others burrow under the ground. None of them are carnivorous. Many of the Squirrels may, with care, be rendered docile, but when they are at all irritated they attempt to bite : in confinement they are generally very frolicsome. When they are on the ground, they proceed by leaps ; and when they eat they sit erect, and hold their food in the fore-paws.

The number of species is near *thirty*. They have two front-teeth in each jaw, the upper wedge-shaped, and the lower sharp : five grinders on each side of the upper-jaw, and four on each side of the under one : collar-bones in the skeleton ; and, in most species, the tail spreading towards each side.*

THE COMMON SQUIRREL.†

This elegant little animal is equally admired for the neatness of its figure, and the activity and liveliness of its disposition. Though naturally wild and timid it is soon familiarized to confinement, and easily taught to receive with freedom the most familiar caresses from the hand that feeds it.

In the spring these creatures seem peculiarly active, pursuing each other among the trees, and exerting various efforts of agility. During the warm summer nights they may also be observed in a similar exercise. They seem to dread the heat

* Linn. Gmel. i. 145.

† SYNONYMS.—*Sciurus vulgaris*. Linn.—*Ecureil*.—*Beffon*.—*Bew*.
Quadr. 352.

of the sun, for during the day they commonly remain in their nests, and make their principal excursions by night.

The nest of the squirrel is, in its construction, exceedingly curious; it is generally formed among the large branches of a great tree, where they begin to fork off into small ones. After chusing the place where the timber begins to decay, and an hollow may the more easily be formed, the Squirrel begins by making a kind of level between the forks; and then bringing moss, twigs, and dry leaves, it binds them together with such art as to resist the most violent storm. This is covered up on all sides; and has but a single opening at the top, which is just large enough to admit the little animal; and this opening is itself defended from the weather by a kind of canopy, formed like a cone, so as to throw off the rain, however heavy it may fall. The nest thus formed, with a small opening above, is nevertheless very commodious and roomy below; soft, well knit together, and every way convenient and warm. The provision of nuts and acorns is seldom in its nest, but in the hollows of the tree, carefully laid up together, and never touched by the animals but in cases of necessity, when no other food is to be had abroad. Thus a single tree serves for a retreat and a storehouse; and without leaving it during the winter, the Squirrel possesses all those enjoyments that its nature is capable of receiving.

This little animal is extremely watchful; and it is said, that if the tree in which it resides is but

touched at the bottom, it takes the alarm, quits its nest, at once flies off to another tree, and thus travels with great ease along the tops of the forest, until it finds itself perfectly out of danger. In this manner it continues for some hours at a distance from home, until the alarm is past away; and then it returns by paths that to nearly all quadrupeds but itself are utterly impassible. Its usual way of moving is by bounds; these it takes from one tree to another at a very great distance; and if it is at any time obliged to descend, it runs up the side of the next tree with astonishing facility.

It seldom makes any noise, except when it experiences either pain or pleasure; when the former, it utters a sharp piercing note, and in the latter, it makes a noise not unlike the purring of a Cat.

The tail of the Squirrel is its greatest ornament, and serves as a defence against the cold, being large enough to cover the whole body; it is likewise of use to the animal in taking its leaps from one tree to another.

In northern climates these animals change their red summer dress, on the approach of winter, to grey; and it is singular that this alteration will take place in those climates, even in the warmth of a stove. Dr. Pallas had one, entirely red, brought to him on the 12th of September. It was placed in a stove: about the 4th of October many parts of its body began to grow hoary; and when it died, which was just a month afterwards, the whole body had attained a grey colour; the legs, and

a small part of the face alone retaining a reddish tinge.*

THE GREY SQUIRREL.†

This species, both in its form and manners, very much resembles the common Squirrel. It is about the size of a young Rabbet, and, except the inside of the limbs, and the under parts of the body, which are white, its colour is an elegant pale grey.

They are said to be natives of Lapland, and some other northern climates. They often change the places of their residence, and sometimes not one of them can be found during a whole winter, where there were millions in the preceding year. In their marches from one part of the country to another, when it becomes necessary to pass a lake or river, (which is very often in Lapland) these animals lay hold of a piece of pine or birch bark, which they draw to the edge of the water, mount upon it, and abandon themselves to the pleasure of the wind and waves. They erect their tails to serve the place of sails; but, if the wind blows too strong, or the waves rise high, both the pilot and vessel are overturned. This kind of wreck, which often consists of three or four thousand sail, generally enriches some Laplanders, who find the dead bodies on the shore; and, if these have

* Pallas nov. Sp. Quad. 373.

† SYNONYMS.—*Sciurus Cinereus*. Linn.—Petit gris. Buffon.—Grey Squirrel. Catesby. Penn.—Shaw's Gen. Zool. pl. 147.—Berw. Quad. 354.

not lain too long on the sand, they prepare the furs for sale. But, when the winds are favourable, the poor creatures make a happy voyage, and arrive in safety at their destined port.*

The Grey Squirrels are also natives of North America, where they do much mischief in the plantations, but particularly amongst the maize; for they climb up the stalks, tear the ears in pieces, and eat only the loose and sweet kernel which lies quite in the inside. They sometimes come by hundreds upon a maize-field, and thus destroy the whole crop of a farmer in one night. In Maryland therefore, some years ago, every person was compelled to bring annually four Squirrels, the heads of which, to prevent deceit, were given to the surveyor. In other provinces every one who killed a Squirrel received from the public treasury two-pence on delivering up its head. Pennsylvania alone paid, from January 1740, to January 1750, no less a sum than *eight thousand pounds*, currency, in rewards for the destruction of these animals; consequently in that year no fewer than 640,000 must have been destroyed.

This species resides principally among the trees, in the hollows of which it makes its nest, with straw, moss, and other materials; and feeds on acorns, fir-cones, maize, &c. as well as on various kinds of fruit. It is said to amass great quantities of provision for winter, which it deposits in holes that it prepares beneath the roots of trees, and in other places.

* Scheffer, 338, who quotes Olaus Petri as a witness to one of these migrations.

When they are sitting on a bough, and perceive a man approach, they instantly move their tails backward and forward, and make a chattering noise with their teeth. This renders them detested by the sportsmen, who often lose their game by the alarm they create.

The flesh of these animals is eaten by some people, and esteemed very delicate. The skins in America are used for ladies' shoes; and are often imported into England for the lining or facing of cloaks.*

They are very difficult animals to kill, changing their place on the trees with such expedition as generally to elude the shot of the most expert marksman.—They are said to be easily tamed; and in that state to associate readily with other domestic animals.

THE BLACK SQUIRREL.†

The Black Squirrel is very nearly allied to the preceding species, differing principally in its coal-black colour, and somewhat shorter tail. The muzzle and the tip of the tail are sometimes white.

These are natives of America, and migrate from the territory of the United States. They take to the water when rivers lie in their route; but, as if conscious of their inability to cross the Niagara in its wide parts, they have been observed to bend

* Penn. Arct. Zool. i. 117.

† SYNONYMS.—*Sciurus Niger*, Linn.—*Ecureil noir*, Buffon.—Black Squirrel, Catesby, Penn.—*Sharw's Gen. Zool.* pl. 147.

their course along its banks, above the falls, and at its narrowest and most tranquil parts to cross into the British territory. In the year 1795, it was calculated that in the course of two or three days, as many as fifty thousand of them crossed that river; and they committed such depredations on arriving at the settlements on the opposite side, that in one part of the country the farmers deemed themselves very fortunate where they got in as much as only one third of their crops of corn.

“Some writers (says Mr. Weld), have asserted that these animals cannot swim, but that when they come to a river, each one provides itself with a piece of wood or bark, upon which, when a favourable wind offers, it embarks, spreads its bushy tail to catch the wind, and is thus wafted over to the opposite side. Whether these animals do or do not cross in this manner sometimes, I cannot take upon me to say; but I can safely affirm that they do not always cross so, as I have frequently shot them in the water whilst swimming. No animals swim better, and, when pursued, I have seen them eagerly take to the water. Whilst swimming their tail is useful to them by way of rudder, and they use it with great dexterity; owing to its being so light and bushy, the greater part of it floats upon the water, and thus helps to support the animal. The migration of these animals in large numbers, is said to be an infallible sign of a severe winter.”*

* Weld.

THE STRIPED SQUIRREL.*

The length of the Striped Squirrel is about six inches; its tail, which is rather more, is not curved and bushy, but long and very narrow. The skin is of a reddish brown, and marked with five black streaks, one of which runs along the back, and two on each side. These animals eat all kinds of corn, and, like the Common Squirrel, collect provisions in autumn for the winter, and store them in their holes. They have two cheek pouches, which they fill with corn in the fields, and in this manner convey it home.

They are natives of America, and dig holes in the ground, in which they live, and to which they fly for shelter whenever danger is near. Their holes are deep, and commonly divided into many branches, from one of which they generally have an opening to the surface of the ground. The advantage they derive from this is, that when they ramble abroad for food, and are prevented from entering the hole at which they went out, they may not expose themselves to their pursuers, but immediately retreat into the other. But in autumn, when the leaves are falling from the trees, it is very diverting to observe their consternation, when pursued; for their holes being covered with leaves, they have then some difficulty in finding them:

* SYNONYMS.—*Sciurus Striatus*. Linn.—Striped Doimouse. Penn.—Ground Squirrel. Kerr.—*Ecureil Suisse*. Buffon.—Suisse Squirrel. La Montan.—Sharv' Gen. Zool. pl. 148.—Bew. Quad. 356.

they run backward and forward, as though they had lost their way: they seem to know where their subterraneous haunts lie, but cannot discover the entrances. If they are pursued, and any sudden or loud noise is made, they are constrained to take refuge in the trees, but this they never do unless compelled to it.*

Their subterraneous dwellings are formed with much art, being worked into long galleries, with branches on each side, each terminating in an enlarged apartment, in which they hoard their stock of winter provision. Their acorns are lodged in one, in a second the maize, in a third the hickery-nuts, and in the fourth perhaps their most favourite food, the chesnut. Nature has given to them a fine conveniency for collecting their provisions, in their cheek pouches, which they fill with different articles of their food, that are to be conveyed to their magazines. In Siberia they hoard up the kernels of the stone-pine in such quantities, that ten or fifteen pounds weight of them have been taken out of a single magazine.†

As a Swede was some time ago making a mill-dike, pretty late in autumn, he took for that purpose the soil of a neighbouring hill, and met by chance with a subterraneous walk belonging to these Squirrels. He traced it to some distance, and discovered a gallery on one side, like a branch,

* Kalm.

† Penn. Arct. Zool. i. 127.

parting from the main stem. It was near two feet long, and at its extremity was a quantity of remarkably plump acorns of the white oak, which the careful little animal had stored up against the winter. He soon afterwards found another gallery, on one side, like the former, but containing a store of maize; a third had hickery-nuts; and the last and most hidden one contained as many excellent chesnuts as would have filled two hats.

In winter these Squirrels are seldom seen, as during that season they keep within their holes. On a fine clear day, however, they sometimes come out.—They frequently dig through into cellars, where the country people lay up their apples: these they often eat or spoil in such a manner that few or none of any value are left.

They are not to be tamed without great difficulty, and even then it is always dangerous to handle them, as they will bite pretty keenly when a person is not aware of them.

In the choice of their food they are remarkably nice, having been observed, after filling their pouches with rye, to fling it out, on meeting with wheat, and substitute for it the superior grain.*

They are taken merely on account of their skins, which, though forming but a slight or ordinary fur, have a very pleasing appearance when properly disposed. These are said to be chiefly sold to the Chinese.

* Penn. Arct. Zool. i. 127.

THE AMERICAN FLYING SQUIRREL.*

The American Flying Squirrel, which is a native of most parts of North America, has large black eyes, round naked ears, and a hairy membrane, extending nearly round the body. The tail, which tapers to a point, has its hairs disposed flatways on its sides. The upper parts of the body are of a cinereous brown: the belly is white, tinged with yellow. The membrane passes the fore and hind legs to the tail; on the fore legs it adheres as far as the toes, and includes a peculiar bone which is attached to the wrist, and helps to stretch it out in flying; and on the hind legs it extends to the ancles.†

These Squirrels inhabit hollow trees, where they sleep during the day, and from whence they only make their appearance in the night, when they are very lively and active. They associate in flocks, several living in the same tree, which they never willingly quit, to run upon the ground, but almost constantly reside among the branches.

By means of their lateral membranes they are able to make astonishing leaps of ten or twelve yards, from tree to tree. In these efforts they extend their hind legs, and stretch out the intervening skin, by which they present a greater surface to the air, and become more buoyant. They are, however, still under the necessity of taking

* SYNONYMS.—*Sciurus Volucella*. *Linn.*—Flying Squirrel. *Catesby*.—*Quimichpatlan*. *Fernand.*—*Polatouche*. *Buffon.*—American Flying Squirrel. *Shaw*.
 † *Kerr*, i. 267.

advantage of the lower branches of the tree to which they leap, for their weight prevents them from keeping in a straight line. Sensible of this, they always take care to mount so high as to insure them from falling to the ground. This extended skin acts upon the air somewhat in the manner of a paper kite, and not by repeated strokes like the wings of a bird. The animal being naturally heavier than the air, must of course descend; the distance, therefore, to which it can jump, depends on the height of the tree on which it stands. When it is at rest, the skin is wrinkled up against its sides.

These animals are generally seen in flocks of ten or twelve, and, to persons unaccustomed to them, they appear at a distance, in their leaps, like leaves blown from the trees by the wind. "When I first saw them, (says Catesby), I took them for dead leaves blown one way by the wind, but was not long so deceived, when I perceived many of them to follow one another in the same direction: they will fly fourscore yards from one tree to another."*

They produce three or four young at a time; use the same food, and form their hoards in the same manner as others of the Squirrel tribe. They are easily tamed and soon become familiar. They love warmth, and are very fond of creeping into the sleeve or pocket of their owner. If thrown upon the ground, they instantly shew their dislike to it by running up and sheltering themselves in his cloaths.†

* Catesby, ii. 77.

† Penn. Arct. Zool. ii. 120.

THE EUROPEAN FLYING SQUIRREL.*

The European Flying Squirrel differs from the last species principally in having its tail full of hair, and rounded at the end; and, in the colour of its body, the upper part of which is a fine grey, and the lower white. Its whole length is about nine inches, of which the tail occupies five.

It is found in the birch-woods of Siberia, Lapland, and other northern regions, on whose young branches, and those of the pine, it principally lives.

Its nest is formed of moss, in the hollows, high among the branches; and, except during the breeding season, it is always solitary. It always sleeps during the day-time, and seldom appears abroad in bad weather. It is active the whole winter, being frequently taken, during that season, in the traps laid for the Grey Squirrels. Like the last species, it can leap to vast distances from tree to tree.

The females have two, three, and sometimes four, young at a time. When the mother goes out in search of food, she carefully wraps them up in the moss of her nest. She pays them the utmost attention, brooding over them, and sheltering their tender bodies, by her flying membrane, from the cold. When taken from the nest, it has been found very

* SYNONYMS.—*Sciurus Volans*. *Linn.*—Flying Squirrel. *Penn.*—Polatouche. *Buffon.*—*Shaw's Gen. Zool. pl.* 149.—*Bew. Quad.* 361.

difficult to keep them alive, owing probably to the want of proper food

Their skins are not very valuable in a commercial view.*

THE DORMICE.

THESE animals live in holes in the ground, where they always continue in a state of torpidity during the winter. Their pace is a kind of leap; in which, like the Jerboas, they are assisted by their tails. They feed entirely on vegetables, and eat only in the night. In this act they sit upright, and carry the food to their mouth with the paws. When they are thirsty, they do not lap like most other quadrupeds, but dip their fore-feet, with the toes bent, into the water, and thus carry it to their mouth.†

There are two front-teeth in each jaw; the upper wedge-shaped, the lower compressed; and in each jaw there are four grinders. The whiskers are long. The tail is cylindrical, hairy, and thickest towards the end. The legs are nearly of an equal length; and the fore-feet have each four toes.‡

* Pennant.

† Kerr, i. 270.

‡ Linn. Gmel. i. 155.

THE COMMON DORMOUSE.*

This animal is about the size of a Mouse, but more plump or rounded, of a tawny red colour, with a white throat and full black eyes.

It lives in woods, or thick hedges, forming its nest of grass, dried leaves or moss, in the hollow of some low tree, or near the bottom of a close shrub.

The Dormice have not the sprightliness of the Squirrel, but, like that animal, they form little magazines of nuts, acorns, and other food, for their winter provision. The consumption of their hoard, during the rigour of winter, is but small; for, retiring into their holes on the approach of the cold, and rolling themselves up, they lie torpid nearly all that gloomy season. Sometimes they experience a short revival in a warm sunny day; when they take a little food, and then relapse into their former state.

They make their nest of grass, moss, and dried leaves;—this is six inches in diameter, and open only from above. Their number of young, is generally three or four.

* SYNONYMS.—*Myoxus Muscardinus*. *Linn. Gmel.*—*Mus Avelanarius*.—*Linn. Syst. Nat. ed. xii.*—Dormouse, or sleeper. *Ray.*—*Muscardin*. *Buffon.*—*Shaw's Gen. Zool, pl. 154.*—*Bew. Quad. 360*

THE JERBOA TRIBE.

THE Jerboas seem, in many respects, both of conformation and habit, much allied to the Kangaroos; but an adherence to artificial system will not allow them to be arranged together. They use their long hind-legs in leaping, very seldom going on all fours; and, with their fore-legs, they make their holes in the ground, and bear the food to their mouth. They are inhabitants principally of the warmer climates.

They have two front teeth above, and two below. The fore-legs are short, and the hind-ones very long; and they have clavicles, or collar bones.

THE SIBERIAN JERBOA.*

This species is found in different parts of the eastern deserts of Siberia: it also occurs in Barbary, Syria, and some parts of Tartary; but seldom in great plenty. It is of a pale yellowish fawn colour, on the upper parts, and white beneath. The length of the body is about eight inches, and

* SYNONYMS.—*Dipus Jaculus*. Linn. *Gmel.*—*Mus Jaculus*.—Linn. *Syst. Nat. ed. xii.*—Egyptian Jerboa. *Pennant.*—Jerboa. *Bruce.*—Jerbo. *Sormini.*—Gerboa, or Daman Israel. *Shaw's Travels.*—Gerboise et Alagtaga. *Buffon.*—Erdhaase. *Gmelin's Travels.*—*Shaw's Gen. Zool. pl. 158.*—*Bew. Quad. 364.*

of the tail, ten. It very much resembles the Egyptian Jerboa, except in the hind-feet, each of which has five instead of three toes.

The Jerboas inhabit dry, hard, and clayey ground. They dig their burrows very speedily, not only with their fore-feet, but with their teeth, and fling the earth back with their hind-feet, so as to form a heap at the entrance. The burrows are many yards long, and run obliquely and winding, but not above half a yard deep below the surface. They end in a large space or nest, the receptacle of the purest herbs. They have usually but one entrance, yet, by a wonderful sagacity, the animals work from their nest another passage, to within a very small space from the surface, which, in case of necessity, they can burst through, and so escape.*

The sands and rubbish which surround modern Alexandria, are much frequented by the Jerboas. They live there in troops, and, in digging the ground, are said to penetrate even through a stratum of softish stone, which is under the layer of sand. Without being actually wild, they are exceedingly restless: the slightest noise, or any new object whatever, makes them retire to their holes with the utmost precipitation.

It is almost impossible to kill them, but by taking them by surprise. The Arabs have the art of catching them alive, by stopping up the outlets to the different galleries belonging to the colony, (one excepted,) through which they force them out.*

* Penn. Quad. ii. 430.

† Sonnini, i. 162.

Though animals of a very chilly nature, they keep within their holes in the day, and wander about only during the night. At sun-set, they first come out, clear their holes of their filth; and they remain abroad till the sun has drawn up the dews from the earth.*

They go only on their hind-legs, the fore-legs being very short; and, on the approach of any danger, they immediately take to flight, in leaps six or seven feet high, which they repeat so swiftly that a man, mounted on a good horse, can scarcely overtake them. They do not proceed in a straight line, but run first to one side, and then to the other, till they find either their own burrow, or some neighbouring one. In leaping, they bear their tails, which are longer than their bodies, stretched out. In standing or walking, they carry them in the form of an S, the lower part touching the ground, so that it seems a director of their motions. When surprised, they will sometimes go on all fours, but they soon recover their attitude of standing on their hind-legs, like a bird. When undisturbed, they use the former attitude; then rise erect, listen, and hop about like a crow. In digging or eating, they drop on their fore-legs; but, in the latter action, they often sit up like a squirrel.†

The Arabs of the kingdom of Tripoli, in Africa, teach their Greyhounds to hunt the Antelope,

* Sonnini observes, that, as far as he could learn, the contrary is the case, and that their principal time of being abroad is during the day,

† Penn. Quad, ii. 430.

by first instructing them to catch Jerboas ; and so agile are these little creatures, that Mr. Bruce has often seen, in a large court-yard or inclosure, the Greyhound employed a quarter of an hour before he could kill his diminutive adversary ; and had he not been well trained, so as to make use of his feet as well as his teeth, he might have killed two Antelopes in the time he could have killed one Jerboa.*

In their wild state, these animals are fond of tulip-roots, and nearly all the oleaginous plants ; but, in confinement, they do not refuse raw meat. They are the prey of most of the smaller rapacious beasts. It requires no difficulty to tame them, but it is necessary that they should be kept warm. They are so susceptible of cold as to foretell bad weather, by always wrapping themselves close up in their cage before its commencement : and those that are abroad, always, on these occasions, stop up the mouths of their burrows. They sleep during the winter, but a warm day sometimes revives them. On the return of the cold they always retreat again to their holes.†

M. Sonnini fed for some time, while he was in Egypt, six of these animals, in a large cage of iron wire. The very first night they entirely gnawed asunder the upright and cross sticks of their prison ; and he was under the necessity of having the inside of the cage lined with tin. They were fond of

* Bruce.

† Penn. Qual. ii. 431.

basking in the sun ; and the moment they were put in the shade, they clung close to each other, and seemed to suffer from the privation of warmth. They did not usually sleep during the day. Though they had much agility in their movements, gentleness and tranquillity seemed to form their character. They suffered themselves to be stroked with great composure ; and never made a noise or quarrelled even when food was scattered among them. No distinguishing symptoms of joy, fear, or gratitude were discoverable ; and their gentleness was by no means either amiable or interesting : it appeared the effect of a cold and complete indifference, approaching to stupidity. Three of these died, one after another, before Sonnini left Alexandria : two died on a rough passage to the island of Rhodes ; and the last was lost, and, as he supposes, devoured by Cats when he was at the island.

He says it is very difficult to transport these tender little creatures into other climates ; but as an indispensable precaution to those who attempt it, he advises that they be close shut up in strong cages, or other conveniences, without any possibility of escaping ; for their natural disposition inciting them to gnaw whatever comes in their way, they may occasion very considerable damage to a ship in the course of her voyage ; and, being able to eat through the hardest wood, may even endanger her sinking*

* Sonnini, i. 262.

They breed several times in the summer, and bring seven or eight young at a time. The Arabs eat them, and esteem them among their greatest delicacies.

THE HARE TRIBE.

THE generic character of the Hare consists in its having two front-teeth, both above and below; the upper pair duplicate, two small interior ones standing behind the others: the fore-feet with five, and the hinder with four toes.

These animals live entirely on vegetable food, and are all remarkably timid. They run by a kind of leaping pace, and in walking they use their hind-feet as far as the heel. Their tails are either very short (called in England *scuts*); or else they are entirely without.*

THE COMMON HARE.†

This little animal is found throughout Europe, and indeed in most of the northern parts of the world. Being destitute of weapons of defence, it is endowed by Providence with the passion of fear. Its timidity is known to every one: it is attentive to every alarm, and is, therefore, furnished with

* Kerr, ii. 277.

† SYNONYMS.—*Lepus Timidus*. Linn.—*Lievre*. Buffon.—*Shaw's Gen. Zool. pl. 162.*—*Bew. Quad. 337.*

ears very long and tubular, which catch the remotest sounds. The eyes are so prominent as to enable the animal to see both before and behind.

The Hare feeds in the evenings, and sleeps in his form during the day ; and as he generally lies on the ground he has the feet protected, both above and below, with a thick covering of hair. In a moon-light evening many of them may frequently be seen sporting together, leaping about and pursuing each other : but the least noise alarms them, and they then scamper off, each in a different direction. Their pace is a kind of gallop, or quick succession of leaps ; and they are extremely swift, particularly in ascending higher grounds, to which, when pursued, they generally have recourse : here their large and strong hind-legs are of singular use to them.—In northern regions, where, on the descent of the winter's snows, they would, were their summer fur to remain, be rendered particularly conspicuous to animals of prey, they change in the autumn their yellow-grey dress, for one perfectly white, and are thus enabled, in a great measure, to elude their enemies.

In more temperate regions they chuse in winter a form exposed to the south, to obtain all the possible warmth of that season : and in summer, when they are desirous of shunning the hot rays of the sun, they change this for one with a northerly aspect : but in both cases they have the instinct of generally fixing upon a place where the immediately surrounding objects are nearly the colour of their own bodies.

In one Hare that a gentleman watched, as soon as the Dogs were heard, though at the distance of nearly a mile, she rose from her form, swam across a rivulet, then lay down among the bushes on the other side, and by this means evaded the scent of the Hounds.—When a Hare has been chased for a considerable length of time, she will sometimes push another from its seat, and lie down there herself. When hard pressed, she will mingle with a flock of Sheep, run up an old wall, and conceal herself among the grass on the top of it, or cross a river several times at small distances. She never runs in a line directly forward, but constantly doubles about, which frequently throws the Dogs out of the scent; and she generally goes against the wind. It is extremely remarkable that Hares, however frequently pursued by the Dogs, seldom leave the place where they were brought forth, or that in which they usually sit: and it is a very common thing to find them, after a long and severe chase, in the same place the day following.

The females have not so much strength and agility as the males: they are, consequently, more timid, and never suffer the Dogs to approach them so near, before they rise, as the males. They are likewise said to practise more arts, and to double more frequently.

This animal is gentle, and susceptible even of education. He does not often, however, though he exhibits some degree of attachment to his master, become altogether domestic: for, although when taken very young, brought up in the house,

and accustomed to kindnesses and attention, no sooner is he arrived at a certain age, than he generally seizes the first opportunity of recovering his liberty, and flying to the fields.

Whilst Dr. Townson was at Göttingen, he had a young Hare brought to him, which he took so much pains with, as to render it more familiar than these animals commonly are. In the evenings it soon became so frolicsome, as to run and jump about his sofa and bed; sometimes in its play it would leap upon, and pat him with its fore-feet, or, whilst he was reading, even knock the book out of his hand. But whenever a stranger entered the room, the little animal always exhibit considerable alarm.*

Mr. Borlase saw a Hare that was so familiar as to feed from the hand, lay under a chair in a common sitting-room, and appear, in every other respect, as easy and comfortable in its situation as a Lap-dog. It now and then went out into the garden, but after regaling itself always returned to the house as its proper habitation. Its usual companions were a Greyhound and a Spaniel, both so fond of Hare-hunting, that they often went out together without any persons accompanying them. With these two Dogs this tame Hare spent its evenings: they always slept on the same hearth, and very frequently it would rest itself upon them.†

Hares are very subject to Fleas. Linnæus tells us that cloth made of their fur will attract these

* Townson's Tracts, p. 146.

† Borlase, p. 289.

insects, and preserve the wearer from their troublesome attacks.

Dogs and Foxes pursue the Hare by instinct : wild Cats, Weasels, and birds of prey devour it ; and man, far more powerful than all its other enemies, makes use of every artifice to seize upon an animal which constitutes one of the numerous delicacies of his table. Even this poor defenceless beast is rendered an object of amusement, in its chase, to this most arrogant of all animals, who boasts his superiority over the brute creation in the possession of intellect and reason : wretchedly indeed are these perverted when exercised in so cruel, so unmanly a pursuit :

Poor is the triumph o'er the timid Hare !
 Yet vain her best precaution, though she sits
 Conceal'd with folded ears ; unsleeping eyes,
 By nature rais'd to take th' horizon in ;
 And head conceal'd betwixt her hairy feet,
 In act to spring away. The scented dew
 Betrays her early labyrinth ; and deep
 In scatter'd, sullen openings, far behind,
 With ev'ry breeze she hears the coming storm.
 But nearer, and more frequent, as it loads
 The sighing gale, she springs amaz'd, and all
 The savage soul of game is up at once.

In India the Hare is hunted for sport, not only with Dogs, but with Hawks, and some species of the Cat genus. The flesh, though in esteem amongst the Romans, was forbidden by the Druids, and by the Britons of the early centuries. It is now, though very black, dry, and devoid of fat, much esteemed by the Europeans, on account of its peculiar flavour.

The female goes with young about a month; she generally produces three or four at a litter, and this about four times in the year. The eyes of the young ones are open at birth: the dam suckles them about twenty days, after which they leave her and procure their own food. They make forms at a little distance from each other, and never go far from the place where they were brought forth. The Hare lives about eight years.

THE VARYING HARE.*

This species has a very soft fur, which in summer is grey, with a slight mixture of tawny; the tail is always white. The ears are shorter, and the legs more slender than those of the Common Hare; and the feet more closely and warmly furred. In size this animal is also somewhat smaller.

Besides other cold parts of Europe, the Varying Hare is found on the tops of the highest Scots hills, never descending to the plains. It never mixes with the last species, though common in the same neighbourhood. It does not run fast, and when alarmed takes shelter in clefts of the rocks.

In September it begins to change its grey coat, and resume its white winter's dress, in which only the tips and edges of the ears, and the soles of the feet are black. In the month of April it again becomes grey. It is somewhat singular that although this animal be brought into a house, and even kept in

* SYNONYMS.—*Lepus Variabilis*. *Linn.*—Alpine Hare. *Forster. Penn. Syn.*—Varying Hare. *Penn. Quad.*

stoved apartments, yet it still changes its colour at the same periods that it does among its native mountains.

In some parts of Siberia the Varying Hares collect together in such multitudes, that sometimes flocks of five or six hundred of them may be seen migrating in spring, and returning in the autumn. Want of sustenance compels them to this: in winter they are therefore under the necessity of quitting the lofty hills, the southern boundaries of Siberia, and seeking the plains and northern wooded parts, where vegetables abound: and towards spring they again return to their mountainous quarters.*

In their white state the flesh is extremely insipid.

THE RABBIT.†

The Rabbit lives in holes in the earth, where she brings forth her young. The fecundity of this animal is truly astonishing. It breeds seven times in the year, and generally produces seven or eight young ones at a time. Supposing this to happen regularly for about four years, the progeny from a single pair will amount to more than a *million*. Their numerous enemies prevent any increase likely to prove injurious to mankind; for besides their affording food to us, they are devoured by animals of prey of almost every description, which make dreadful havoc among them. Yet, notwithstanding these, in the time of the Romans they once

* Penn. Quad. ii. 371.

† SYNONYMS.—*Lepus*. *Cuniculus*. *Linn.*—*Lapin Sauvage*. *Buffon*.—*Coney*. *Ray*.—*Statow's Gen. Zool.* pl. 162.—*Bew.* *Quad.* 341, 343.

proved such a nuisance in the Balcaric islands, that the inhabitants were obliged to implore the assistance of a military force from Augustus in order to exterminate them.

The female goes with young about thirty days. A short time previous to her littering, if she does not find a hole suited to her purpose, she digs one, not in a straight line, but of a zig-zag form. The bottom of this she enlarges every way, and then with a quantity of hair which she pulls from her own body, she makes a warm and comfortable bed for her young. During the whole of the two first days she never leaves them, except when pressed by hunger, and then she eats with surprising quickness, and immediately returns. She always conceals them from the male, lest he should devour them; and therefore when she goes out, she covers up the hole so carefully that its place is scarcely perceptible to the eye. In this manner she continues her attention for about a month, when the young are able to provide for themselves. Notwithstanding the unaccountable propensity which the male has to devour them when very young, yet when they are brought by the mother to the mouth of the hole, to eat such vegetables as she gets for them, he seems to know them, takes them betwixt his paws, smooths their hair, and caresses them with great tenderness.

Rabbits, as they cannot easily articulate sounds, and are formed into societies that live underground, have a singular method of giving alarm. When danger is threatened, they thump on the ground

with one of their hinder feet, and produce a sound that can be heard a great way by animals near the surface of the earth. This, Dr. Darwin, from its singularity, and aptness to the situation of the animals, concludes, though apparently upon false grounds, to be an artificial sign, and merely acquired from their having experienced its utility. He will not allow of any thing like an instinctive propensity.

We have an account in Dr. Anderson's *Recreations of Agriculture*, of the regular production of a singular variety of the Rabbet, with only one ear.

“A gentleman of my acquaintance chanced to find a Rabbet among his breed that had only one ear; he watched the progeny of that creature, and among these he found one of the opposite sex that had only one ear also: he paired these two one-eared Rabbets together, and has now a breed of Rabbets with one ear only, which propagate as fast, and as steadily produce their like, as the two-eared Rabbets from which they were originally descended.”

The fur of the Rabbet is very useful in the manufacture of hats. The flesh, which was forbidden to the Jews and Mahometans, is well known to be very delicate.

THE ALPINE HARE.*

The Alpine Hare is about nine inches in length. It has a long head and whiskers; and above each

* SYNONYMS.—*Lepus Alpinus*. *Linn.*—Mountain Hare. *Kerr.*—*Shaw's Gen. Zool.* pl. 163.

eye are two very long hairs. The ears are short and rounded. The fur is dusky at the roots, of a bright bay at the ends, slightly tipped with white, and intermixed with long dusky hairs : at first sight however, the animals seem of a bright, unmixed bay colour.

Their most southern habitation is on the Altaic chain of mountains near lake Baikal, in Siberia; and they extend from thence as far north as to Kamtschatka.

They are always found in the middle regions of the snowy mountains, where these are clad with woods, and where herbs and moisture abound. They sometimes burrow between the rocks, but more frequently lodge in the crevices. They are generally found in pairs; but in bad weather they collect together, lie on the rocks, and whistle so much like the chirp of Sparrows, as easily to deceive the hearer. On the report of a gun they run off into their holes, from whence however, if nothing more is heard, they soon return.

By the usual wonderful instinct of like animals, they make a provision against the rigorous season in their inclement seats. A company of them, towards autumn, collect together vast heaps of favourite herbs and grasses, nicely dried, which they place either beneath the overhanging rocks, or between the chasms, or round the trunk of some tree. The way to these heaps is marked by a worn path, and in many places the plants appear scattered, as if to be dried in the sun and harvested properly. The heaps are formed like round or conoid ricks; and

are of various sizes, according to the number of the society employed in forming them. They are sometimes about a man's height, and usually three or four feet in diameter.

Thus they wisely provide their winter's stock, without which they must, in the cold season, infallibly perish, being prevented by the depth of snow, from quitting their retreats in quest of food.

They select the best of vegetables, and crop them when in the fullest vigour. These they make into the best and greenest hay, by the very judicious manner in which they dry them. The ricks they thus form are the origin of fertility among the rocks; for the relics, mixed with the dung of the animals, rots in the barren chasms, and create a soil productive of vegetables.

These ricks are also of great service to that branch of mankind who devote themselves to the laborious employ of Sable-hunting: for, being obliged to go far from home, their Horses would often perish for want, had they not the provision of these industrious little animals to support them. They are easy to be discovered by their height and form, even when covered with snow.

The people of Jakutz are said to feed both their Horses and Cattle on the relics of the winter stock of these Hares.—As food they are themselves neglected by mankind; but they are the prey of the Sables and the Siberian Weescl.*

* Penn. Quad. ii. 377.

THE OGOTONA HARE.*

The Ogotona Hare inhabits all Mongolia, and beyond the lake Baikal, where it is found in great abundance. It is somewhat more than six inches in length, of a pale brown colour above, and somewhat white beneath; and it is entirely destitute of tail.

These little creatures live under heaps of stones, or burrow in the sandy soil, leaving two or three entrances to their habitation, all of which run obliquely. Their nest is formed of soft grass; and the old females, for greater security, make a number of burrows near each other, that they may, if disturbed, retreat from that where they are to some of the rest. They feed in the night; and their voice is, as in the last species, like the note of a Sparrow, but much more shrill.

Their principal food is the tender bark of trees, and different herbs. Before the approach of severe weather, even in the spring of the year, they collect a store of vegetables, with which they fill their holes, and these proceedings are always taken notice of by the inhabitants, as certain signs of the approaching change of weather. In autumn, directed by the same instinct as the former species, they form ricks of hay, of an hemispherical shape, about a foot high and wide. In the spring, these heaps are gone, and nothing but the relics are seen.†

* SYNONYMS.—*Lepus Ogotona.* Linn.—Ogotona Hare. Penn.—Shaw's *Gen. Zool*, pl. 163.

† Penn. Quad. ii. 380.

The female brings forth her young in spring, and, by the end of June, these are fully grown.

THE CALLING HARE.*

This is a smaller species than the last, but has a great resemblance to it in form. The head is thickly covered with fur; the ears are large and rounded; the legs very short, and the feet furred beneath. The fur on the whole animal is soft, long, smooth, and of a brownish lead colour, and the hairs are tipped with black. On the sides of the body, a yellowish tinge prevails.—It is an inhabitant of some parts of Russia.

These are solitary animals, and very rarely to be seen, even in the places where they are most common. They chuse for their habitations some dry spot amidst bushes, and covered with a firm sod; preferring the western sides of the hills. In these they burrow, leaving a very small hole for the entrance, and form long and intricate galleries, in which they make their nests.

Their voice alone betrays their abode: it is like the piping of a Quail, but somewhat deeper, and so loud, as to be heard at a very great distance. It is repeated, at equal intervals, three, four, and often six times. These notes are omitted in the mornings and evenings, and also, (except in cloudy or rainy weather,) frequently in the middle of the day. The female is silent for some time after par-

* *Lepus Pusillus.* Linn.—Shaw's *Gen. Zool.* pl. 163.

turition, which is about the beginning of May. She produces six young ones at a litter; towards which she exhibits great affection.

These most harmless and inoffensive animals never go far from their holes: they feed and make their little excursions by night. They are easily tamed, and will scarcely even attempt to bite when handled. The males, in confinement, are observed to attack one another, and they express their anger by a kind of grunting noise.

“ Was ev’ry falt’ring tongue of man,
Almighty Father! silent in thy praise,
Thy works themselves would raise a general voice:
Even in the depth of solitary woods,
By human foot untrod, proclaim thy power.”

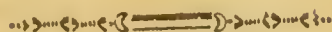
END OF THE FIRST VOLUME.



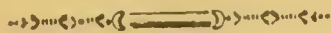
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Those marked with an * are varieties of some other species ;
and those printed in *Italics* are Synonyms.



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